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ABSTRACT

This literature review is the third volume of a three-volume report on the status of bilingual vocational training (BVT) for adults in the United States. Few studies were found that directly related to conducting bilingual vocational training for adults of limited English-speaking ability. The review is divided into the following sections: (1) mother tongue versus second language instruction, (2) justifications of the need for bilingual/bicultural programs, (3) communication, (4) self-concept, (5) motivation to learn a second language, (6) first and second language learning characteristics, (7) influence of age on learning a second or foreign language; (8) effects of bilingual instruction on the native language, (9) bilingualism and intelligence, (10) effects of bilingual schooling on achievement in other subjects. Most of the experimental, evaluation and demonstration studies were conducted in the United States and Canada. However, literature from other countries is also reported. (Author/SW)

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ASSESSMENT OF THE STATUS OF BILINGUAL VOCATIONAL TRAINING FOR ADULTS

FINAL REPORT—PHASE I

Volume III: Review of Literature

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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FINAL REPORT-PHASE I

ASSESSMENT OF THE STATUS OF BILINGUAL VOCATIONAL TRAINING FOR ADULTS

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Volume III: Review of Literature

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BILINGUAL INSTRUCTION:

A REVIEW OF THE LITERATURE INDICATING THE ISSUES RELATED TO BILINGUAL VOCATIONAL TRAINING

INTRODUCTION

A comprehensive survey of the literature in the fields of bilingual education/instruction and vocational training was undertaken by Kirschner Associates, Inc., for the project *Assessment of Bilingual Vocational Training for Adults*, conducted for the Office of Education, U. S. Department of Health, Education, and Welfare, in cooperation with the Employment and Training Administration, U. S. Department of Labor.

The primary purposes of this review of literature are to identify the concepts and issues related to conducting bilingual vocational training for limited English-speaking adults and to report the research findings concerning each of these issues. However, this review is also designed to provide detailed information for those who are involved in bilingual/bicultural education and for those who have specific interests within the field.

Bilingual vocational training involves many fields in addition to language and vocational training. To fully grasp the issues concerning bilingual vocational training, one must develop an understanding of the related research in other disciplines, such as linguistics, sociolinguistics, psycholinguistics, social psychology, sociology, psychology, and education. Thus, while some of the research findings reported in this review may not appear to be directly related to bilingual vocational training, they are important because they provide the necessary background for understanding the issues.

OVERVIEW OF THE SUBJECT MATTER OF THE LITERATURE

The investigation of the literature concerning bilingual education and vocational training uncovered few studies directly related to the appropriate approaches and techniques for conducting bilingual vocational training for adults of limited English-speaking ability. Of the literature examined, most of the studies and reports addressed one or more of the following subjects:

- Bilingualism
- Bilingual/bicultural education of children
- Instruction of children through a second language
- Language instruction in English, such as English as a second language (ESL) programs
- Vocational training for the disadvantaged, such as urban and rural low income persons, under-educated youth, and Blacks.

While some studies addressed the problems of how to assist limited English-speaking persons obtain and retain employment or how to advance up the employment ladder, none of the vocational studies specifically sought to test one or several models for providing bilingual vocational training to persons of limited English-speaking ability. Only a few of the studies concerning bilingual/bicultural instruction reported in this review have involved adults as subjects. None of the studies have directly addressed the central questions implied by this project; that is:

- Is learning of vocational skills by limited English-speaking adults more effectively accomplished by instruction conducted in the mother tongue (e.g., Spanish, Chinese, Italian, etc.) or by instruction conducted in English and accompanied by ESL instruction?
- Is the learning process by which adults must learn a semi-skilled or skilled trade sufficiently different from the process of learning a foreign language or academic subjects, thereby negating any possible inferences to appropriate approaches for conducting bilingual vocational training?

- What are the variables, if any, identifying the differences between learning in a second language by adults and learning in a second language by children?
- Are the needs of adults sufficiently different from those of children so that learning in a second language is frequently dysfunctional for adults but only occasionally dysfunctional for children?

Because there is an absence of relevant research on instruction for adults in a second language, there are few conclusions which can be made on bhe basis of the literature reported in this review.[1/] However, the research findings of studies which have been conducted among children are helpful for identifying the major issues and for providing guidance for research to be conducted among adults. For example, the research findings presented in this review of the literature address the following questions:

- How is the concept of communication related to bilingual/bicultural education or training?
- How is the concept of self-concept or self-esteem related to communication and to bilingual/bicultural education or training?
- What are the motivational factors related to success in learning a second or foreign language?
- What are the similarities and differences between learning a first language and learning a second language?
- What are the effects of increasing age on the ability to learn a second or foreign language?
- What are the effects of bilingual instruction on the mother tongue or native language performance of the learner?
- What is the relationship between bilingualism and intelligence?

[1/] It should be noted that the question of the need for bilingual vocational training for adults of limited English-speaking ability has been discussed in other reports submitted by Kirschner Associates, Inc., in compliance with the contract supporting this review of the literature. See *Assessments of the Status of Bilingual Vocational Training for Adults*, Volumes 1 and 2. (Albuquerque, N.M.: Kirschner Associates, 1976).

- What are the effects of bilingual schooling and instruction in a second language on achievement in other subjects?

In addition, this report provides background information on the controversy concerning mother tongue versus second language instruction and identifies some of the major arguments in favor of bilingual/bicultural instruction.

There are some Federally-sponsored projects and Federally-funded programs which have attempted to establish guidelines for efforts to provide occupationally-related training to persons of limited English-speaking ability. For example, the National Puerto Rican Forum, Inc., designed and implemented in New York City a successful program for teaching occupational vocabulary to Spanish-speaking persons already employed. This program, Basic Occupational Language Training (BOLT), was funded by the U. S. Department of Labor.(See Appendix A)

The Job Corps program, Title IV under the Comprehensive Employment and Training Act of 1973 (CETA) administered through the Employment and Training Administration of the U. S. Department of Labor, has developed program guidelines for Job Corps Centers: *Job Corps, Bilingual/Multicultural Program* (1973). (See Appendix B). In addition to helping the Spanish-speaking students further develop skills in the native language and insights into their culture, the program is designed to assist the students' understanding of the training through instuction in the mother tongue. Also, students are given ESL instruction to improve their communication abilities in English. Currently, several Job Corps Centers offer bilingual-multicultural training.

Under Part J of the *Education Amendments of 1974*, the U.S. Congress created a bilingual vocational training program for persons of limited English-speaking ability. Currently, 21 programs enrolling nearly 3,000 students are being conducted throughout the nation and its territories. The intent of Part J of the *Vocational Education Act of 1963*, as amended, is to provide bilingual vocational training for persons "whose effort to profit from vocational training is severely restricted by their limited English-speaking ability."[1/]

[1/] *Vocational Education Act of 1963*, as amended, Part J--Bilingual Vocational Training, Sec. 191.

The Act specifies that instruction be given in and of English, in the native language of the student, and with an appreciation for the cultural heritage of the students.

Enrollment data from several titles of the *Comprehensive Employment and Training Act of 1973 (CETA)*, as amended, which is conducted through funding from the Employment and Training Administration of the U.S. Department of Labor, indicate that approximately two percent of the persons enrolled have limited English-speaking ability. However, only Title I regulations describe the program provisions to be established by prime sponsors "for persons of limited English-speaking ability when such persons constitute a significant portion of a prime sponsor's program" when training is being provided under Title III.[1] Specifically, a prime sponsor with Title III programs is required to develop operating procedures for:

(1) Teaching occupational skills in the primary language of such persons for occupations which do not require a high proficiency in English;...

(5) Conducting training and employment programs in the primary language of such persons; and

(6) Conducting programs designed to increase the English-speaking ability of such persons.

In addition to the Federally-sponsored demonstration and research projects and the Part J Bilingual Vocational Programs, approximately 70 programs in 16 States have been established through Federal and State funding.

While the Part J programs, the BOLT demonstration project, the Job Corps' Bilingual Multicultural guidelines, and the requirements for Title III programs undertaken by Title I prime sponsors provide some direction for programs to improve the language and occupational skills of limited English-speaking persons, there is no research literature available indicating that bilingual vocational training has been demonstrated to be more effective than the traditional combination of ESL instruction, followed by or in conjunction with vocational training conducted in English. Nor, to this date, have evaluation studies been conducted of the Federally-sponsored demonstration projects and programs to indicate that a bilingual approach to vocational training for persons of limited English-speaking ability is more successful than those using various combinations of ESL instruction and vocational training conducted in English.

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[1] Federal Register, "Comprehensive Manpower Program and Grants to Areas of High Unemployment, Part 95--Programs Under Title I of the Comprehensive Employment and Training Act" (DOL), May 23, 1975, Part II, Sec. 95.33(c).

This review of the literature--and the indication of an absence of research studies and relevant literature on bilingual vocational training--should not be construed as an attack on the evidence concerning the need for and benefits of bilingual education and/or bilingual vocational training. There is ample literature--such as the testimony collected during congressional hearings on bilingual education--indicating that persons with a mother tongue other than English want and have a need for bilingual/bicultural education. The success of bilingual education programs indicates that their testimony is correct.

However, the effectiveness of bilingual education for children cannot necessarily be generalized to the potential effectiveness of bilingual vocational training for adults with limited English-speaking ability. What is beneficial or effective for a specific group in one situation may or may not be beneficial or effective for a relatively similar group in a different situation or environment. For example, lower achievement levels and dropout rates among elementary and secondary school students who have limited abilities in understanding and using English have been widely cited as justifications for bilingual education. Evaluations of bilingual education programs have indicated that instuction in the native language or mother tongue has improved the achievement levels of minority language students. As a result, one might also conclude that instruction in a language other than the mother tongue of children would result in lower achievement levels in a variety of subject areas. As the review of literature indicates, such a conclusion cannot be made for all children receiving instruction in a second language while simultaneously learning that language.

Though it may be true that children from certain language minority groups in the United States have lower achievement levels when they are instructed in an unfamiliar language (English), the successes of the St. Lambert Experiment and other immersion programs in Canada and the Culver City immersion project in California indicate that children from dominant language groups can learn academic subject matter taught through a minority group language that is being learned at the same time. In short, English-speaking children have been taught in French in Canada and English-speaking children have been taught in Spanish in California--without any decrease in achievement levels or detrimental effects to their self-concept or self-esteem.

On the basis of the literature reviewed concerning the instruction of children through a second language, it seems clear that the level of achievement in learning basic subjects is not necessarily affected by the process of learning through a second language which is being learned simultaneously. It appears that other factors--such as minority group status, self-concept or self-esteem, motivation to learn a second language, and attitudes toward a language and toward speakers of that language--are more important predictors of success in learning basic subject matter through a second language. Further research is needed to establish the extent of the effects that these other factors have on learning through a second language.

Once again, it is important to note that the findings concerning the achievement levels of children learning basic subject matter through a second language cannot be generalized to limited English-speaking adults who must learn more complex subject matter through a second language.

It should be clear, then, that there is a need for experimental and program evaluation research to determine the actual effectiveness of bilingual instruction for adults and bilingual vocational training for adults of limited English-speaking ability. The basic issues to be investigated by this research are outlined in the sections following the description of the procedures used to identify the literature reviewed for this report.

PROCEDURES FOR IDENTIFYING THE LITERATURE

The literature reviewed concerning the issues of bilingual education/instruction and bilingual vocational training includes articles in professional and scholarly journals, books, pamphlets, Federal documents, and reports on Federally-sponsored studies, grants, projects, and research and demonstration projects. The literature includes experimental and program evaluation research as well as philosophical works and descriptive accounts of various language instruction and vocational training programs.

Most of the experimental, evaluation and demonstration studies were conducted in the United States and Canada. However, literature from other countries--such as England, France, Belgium, Russia, Mexico, South Africa, and the Philippines--is also reported.

In order to develop a basic understanding of the extent of the literature related to bilingual vocational training, interviews were conducted with individuals in the following governmental offices:

- Office of Education, Department of Health, Education, and Welfare
- Employment and Training Administration, Department of Labor
- Bureau of Indian Affairs, Department of Interior
- Other Federal departments and agencies believed to be involved in conducting bilingual vocational training
- Federal Regional Offices for Employment and Training and for Vocational Education
- State offices for vocational education.

In addition, interviews were conducted with current and former contractors and grantees of the Federal government and with private individuals who are experts in bilingual education and/or vocational training.

Individual studies, reports and other documents were identified by consulting the following sources:

- *ERIC Research in Education*
- *ERIC Current Index to Journals in Education*
- *AIM/ARM* (Abstracts of Instructional and Research Materials in Vocational and Technical Education)
- *Language and Language Behavior Abstracts*
- *Language Teaching and Linguistics*
- *Social Science Index*
- *Humanities Index*
- *Education Index*
- *Sociological Abstracts*
- *Psychological Abstracts*
- *Dissertation Abstracts*
- National Technical Information Service (NTIS)
- *Work Related Abstracts*
- *CIRF Abstracts*
- Basic and current bibliographies
- Current reviews of literature on selected topics.

Other literature was identified and materials were reviewed at the following libraries:

- Library of Congress
- Educational Research Library, National Institute of Education
- U.S. Department of Labor Library
- Center for Applied Linguistics Library
- Lauinger Library, Georgetown University.

Finally, the hearings, reports and legislation of the U.S. Congress concerning employment, employment training, education, bilingual education, and bilingual vocational training were reviewed.

MOTHER TONGUE VERSUS SECOND LANGUAGE INSTRUCTION CONTROVERSY

Instruction in the mother tongue or primary language of the individual has long been suggested as the most effective approach to learning. Fifty years ago, Aucamp (1926) promoted the use of the mother tongue for instruction:

> Learning through the mother tongue has many points in its favour. It brings with it a certain spontaneity and promotes efficient and rapid learning; unless the conditions under which it is given make for such isolation as to counteract its favorable effects. It is more effective because the pupils work with instruments with which they are familiar, with which they can identify themselves more readily, and which they can use more freely in thinking and in expressing their thoughts. It means therefore more effective learning, better adaptation to the immediate environment and a better utilization of what has been learnt before entering school. (p. 215)

In the early 1950s, a UNESCO report, *The Use of Vernacular Languages in Education* (1953), stated, "It is axiomatic that the best medium for teaching a child is his mother tongue" (p. 11). While the report acknowledged that instruction in the mother tongue may not always be possible or appropriate, it gave the following justifications for instruction in the vernacular language:

> Psychologically, it is the system of meaningful signs that in his mind works automatically for expression and understanding. Sociologically, it is a means of identification among the members of the community to which he belongs. Educationally, he learns more quickly through it than through an unfamiliar linguistic medium. (p. 11)

The UNESCO report identified nine factors which may limit the use of the vernacular or mother tongue in instruction:

(1) Inadequacy of the vocabulary of the vernacular language

(2) Shortage of educational materials

(3) Multiplicity of languages in a locality

(4) Multiplicity of languages in a country

(5) Need for reading materials

(6) Shortage of suitably trained teachers
(7) Popular opposition to use of mother tongue
(8) Utility of another language (*lingua franca*)
(9) Utility of pidgin languages. (pp. 50-54)

While much of the UNESCO report was concerned with education for children, it recommended that "wherever possible, adult education should be carried out in the mother tongue" (p. 58). The UNESCO panel of experts warned against attempts by adults to become literate directly through a second language rather than through the mother tongue because "if they try to begin to learn to read in a foreign language most of them will never become truly literate" (p. 59).

Similar recommendations were included in another UNESCO report, *African Languages and English in Education* (1953). The report also suggested that adults should develop literacy through the mother tongue before studying English because "experience seems to have shown that it is quicker and more efficient for the illiterate first to acquire literacy in his mother tongue and then to study English" (p. 39).

Weinreich (1953) warned against instruction in a language other than the mother tongue:

> Not only does this retard the children's education, but their knowledge of their own language suffers, and its cultivation is neglected. It has been contended, furthermore, that in segregated ("single-medium") schools, or even in segregated classes of the same ("parallel-medium") schools, intolerant attitudes toward the other language and its speakers are fostered, and thereby the sound civic life of a bilingual country is endangered. (p. 121)

Haugen (1956), although acknowledging that some retardation may occur, pointed out the benefits of developing bilingualism among children:

> Children who have devoted years of their lives, often including the earliest ones, to learning a different language from that in which they are tested, are bound to show some retardation. It can extend to richness of association and proficiency in expression.... But the value judgement which immediately concludes that such a retardation is harmful needs to be tempered by consideration of the values which bilingualism brings the child: continuity and contact with his family, his friends, his social group and its traditions, including its culture and religion. It must also be remembered that the value of superior linguistic skill often shows diminishing returns in occupations where it is not of prime importance. The size of the handicap is never more than a year or two in mental age, which could be a small price to pay for the values obtained. (p. 83)

Bowers (1968) pointed out that psychological and educational factors favor the learning of reading and writing in the mother tongue.

> It is naturally quicker and easier to relate written symbols to known sounds and concepts than to those of an unknown or foreign language. Moreover, a person who has to speak, read, write, learn, and think in a language with which he is not familiar is at a disadvantage: his capacity to express himself is handicapped; communication is slowed down; amd misunderstandings cause frustration and tension. (p. 385)

In their *Handbook of Bilingual Education*, Saville and Troike (1971) echoed the 1953 UNESCO statement concerning instruction in the primary language:

> An axiom of bilingual education is that the best medium for teaching is the mother tongue of the student. The use of

> the native language for classroom instruction allows the education of the child to continue uninterruptedly from home to school, permitting immediate progress in concept building rather than postponing development until a new language has been acquired. (p. 1)

They also note that "basic skills of reading transfer readily from one language to another" and that "social studies and science concepts can be developed most rapidly in the dominant language of the child" (pp. 50-51).

Rubin (1971), in her review of language planning evaluation literature, cites the following advantages of instruction in the vernacular language: individual ease and speed of expression, greater self-esteem, greater independence of thought, greater creativity, greater speed in learning subject matter, firmer grasp of subject matter, and longer retention of subject matter.

In *A Better Chance to Learn: Bilingual Bicultural Education*, the U. S. Commission on Civil Rights (1975) endorsed bilingual/bicultural education as "the best vehicle for large numbers of language minority students who experience language difficulty in our schools" (p. 137). The Commission also noted that:

> Without doubt, it is easier for children to learn in a language they already understand. Native language instruction capitalizes on children's previous knowledge and maximizes the possibility that children will develop healthy self-concepts and positive attitudes toward learning. Cognitive, reading, and expression skills can be developed naturally, without the handicap of having to learn a new language at the same time. In addition, the second language--in this case, English--can more easily be developed if the child is also allowed to fully develop his or her native language. (p. 138)

Though efficiency in learning has been a major argument in favor of instruction in the mother tongue, another important argument has focused on the psychological benefits for the child. As a result, much of the public testimony in support of bilingual/bicultural education has emphasized the beliefs that bilingual/bicultural education (and perhaps training as well) is important for the psychological and social well-being of the individual and for the community and nation as well (Andersson and Boyer, 1970; U.S. Commission on Civil Rights, 1975).

Saville and Troike (1971) have set forth the following justifications for bilingual education which emphasize the psychological benefits:

(1) Gives the mother tongue a status of prestige

(2) Enhances the child's self-respect and self-confidence

(3) Helps the child adjust to the essentially alien situation of the classroom

(4) Helps create a positive attitude among English-speaking students for their nonnative English-speaking classmates

(5) Helps the child understand his or her culture

(6) Assists the child in developing a more positive attitude toward school

(7) Helps destroy negative stereotypes about minority groups

(8) Teaches respect for and acceptance of the cultural values of minority groups

(9) Lays the foundation for the individual's growth as a secure, well-balanced adult who can make a positive contribution to society. (pp. 21-22)

Martinez (1973) has identified eight benefits of bilingual programs for Chicano students:

(1) They reduce retardation by allowing the child to learn immediately, using his mother tongue.

(2) They reinforce the relations between the school and the home through a common communication bond.

(3) They project the child into an atmosphere of personal identification, self-worth, and achievement.

(4) They give the student a base for success in his future vocation.

(5) They preserve and enrich the cultural and human resources of a people.

(6) They enable children to reach grade-level achievement in all subject areas at a more normal rate.

(7) They encourage children to develop an understanding of and respect for their mother tongue and the culture associated with it.

(8) They allow non-English-speaking children to become more proficient in both English and their mother tongue. (p. 264)

Despite the continued and widespread support for conducting instruction in the vernacular or mother tongue, there is little evidence that this approach is more efficient than conducting instruction in a second language. The lack of evidence concerning the efficiency of conducting education and training in the vernacular may be traced to two factors. One important fact is that only a limited amount of research has been conducted on the advantages of teaching language skills in the vernacular language before teaching them in a second language. More important for this study, only a few studies have been conducted concerning the efficiency of teaching skills (other than language skills) in the vernacular or in a second language. Second, an examination of the research literature indicates that there has been little consistency among the studies that have been conducted and that the research methodology used has been lacking in rigorous design. (It might also be noted that the studies have used young children--rather than adults--as subjects.)

The most useful work concerning the efficiency of instruction in the mother tongue or vernacular language versus instruction in the second language was recently completed by Engle (1975).[1] After a review of 24 studies and reports on the effectiveness of instruction in the primary language compared to effectiveness of instruction in a second language, Engle concludes that there is "no substantial evidence as to which approach is better" (p. 26). In addition, she found that the studies examined were "deficient in directly studying the cognitive and psycholinguistic mechanism of transfer involved in learning in a second [language] and in examining political and cultural relationships between language groups that influence language acceptance" (p. 27).

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[1] See Appendix C for two charts developed by Engle describing the Native Language Approach and the Direct Method Approach for teaching children who speak a non-dominant language but who are expected to learn the language of the dominant group.

Engle (1975) suggests a more careful research strategy which would take into account the following issues and confounding factors:

(1) The linguistic relationship between the two languages

(2) The functions of the two languages in the broader community, and the possible uses of literacy in each language

(3) The cultural context of learning in the community

(4) The relationship of the two ethnolingustic groups in the larger society

(5) The initial linguistic status of the child

(6) The period of the child's development in which the second language is introduced

(7) Instructional methods and materials used

(8) The ethnic group membership of the teacher

(9) The training and linguistic knowledge of the teacher

(10) The length of time necessary to observe an effect

(11) The specific subject matter under consideration

(12) The appropriateness of the assessment devices for both languages. (p.26)

In regard to learning educationally-related skills in the vernacular or in the second language, Engle (1975) points out that this area has not been examined as thoroughly as comparative success in learning reading skills. She cites the conflicting findings by Macnamara (1966) and by Trevino (1968) on effectiveness in learning mathematical skills. Macnamara found that lack of understanding of Irish by English-speaking students in Ireland prevented their understanding of more complex reasoning problems, while Trevino found that Spanish-speaking children in the United States could learn mathematics more effectively when instruction was conducted bilingually. In her discussion of learning skills other than language skills, Engle suggests that age and the facility with second language learning might be factors accounting for decreasing disadvantages for students in bilingual classes.

Although there are no research studies concerning the efficiency by which adults learn vocational skills through second language instruction, the findings of a study of Swedish adults' performances in learning a second language (English) provide some indication of the possible value of mother tongue instruction for adults. Levin (1972) found that the provision of explanations and instructions about English grammar through the native tongue (Swedish) resulted in greater learning than an approach whereby instructions were given in the target language (English). Even more striking is the fact that this relationship was significant for adults but not for the five groups of children involved in the study. While Levin warned against generalizing the findings to other adult groups of different composition,[1] he concluded that the results suggest that:

> [E]xplanations in the mother tongue clarifying linguistic patterns are efficient in internalizing the English grammer even when supplied at the expense of practice. (p. 179)

Levin also found that adult 25 years of age and younger performed significantly better than adults 41 and over. However, he warned that the experiments had concentrated on learning grammatical structures, and thus the results should not be generalized to other aspects of language learning.

1/ The 125 adults were taking the seventh grade English course at the Gothenburg Muncipal School for Adults. The mean age was 33 years; the median was slightly more than 30. The educational background was homogeneous, with only two persons having had any academic training beyond the compulsory school.

JUSTIFICATIONS OF THE NEED FOR BILINGUAL/BICULTURAL PROGRAMS

A review of some of the criticisms of educational programs which require minority group children to speak English and learn through the English language rather than through their mother tongue may help to identify some of the major issues. In addition, these criticisms will help to set forth the primary justifications for the development of bilingual/bicultural programs.

First, however, it will be useful to provide a description of bilingual/bicultural education. Ulibarri (1969) has identified three types of bilingual programs:

1. Instruction beginning in the venacular, followed by instruction gradually moving into the second language.
2. Instruction in two languages, the vernacular and the second language.
3. Instruction in two languages, with accompanying emphasis on bicultural methods and curriculum.

Sociolinguist Joshua Fishman (1971) has classified bilingual programs according to their goals: transitional or maintenance. The transitional approach uses the person's native language only as a bridge to learning the second. When English is learned, the first or native language is dropped as a medium of instruction. The maintenance approach emphasizes the learner's own culture and language throughout the educational or training experience.

The bicultural approach, as can be seen, most nearly resembles the third type of bilingual program identified by Ulibarri and the maintenance approach outlined by Fishman.

Valencia (1972), in describing the movement in bilingual education during the early 1970s, identified principles that are generally accepted as bicultural:

> 1. Use of the learner's native language to facilitate the learning process and avoid postponement of cognitive and psychomotor development.
>
> 2. Maintenance and perpetuation of the child's first language, along with other cultural aspects.
>
> 3. Recognition of the desirability of bilingualism. (p. 1)

The bilingual/bicultural approach has been endorsed by many members of minority groups in the United States and by many educators as well. This approach has been briefly described in a Civil Right Commission study of Mexican American education (1971):

> In general, Bilingual-Bicultural Education builds on the child's skills, such as language skills, rather than ignoring or suppressing them. The child's familiar experiences, community, and cultural heritage are incorporated into the educational program, rather than being excluded. Course content is often presented in Spanish along with free use of Spanish in teaching. As a result, children are able to respond more positively to a school and an educational program which reflect their own interests, abilities, and community. (p. 6)

Gezi (1974) has summarized the contributions of bilingual/bicultural programs to the students and their schools:

> 1. These programs enable the child to succeed in school since he can still use his native language in learning school subjects.
>
> 2. They help the child to develop a sense of pride in his language and culture.
>
> 3. They aid the child in learning new skills in another language.
>
> 4. They encourage the child to understand and appreciate the values and customs of another culture.

5. They promote the development of positive intergroup relations.

6. They bridge the gap of communication between the school and all of its community.

7. They prepare children to live and work successfully in a pluralistic society valuing and appreciating their own culture as well as the cultures of the other people around them. (p. 228)

The following comments from a variety of individuals interested in bilingual/bicultural instruction provide an indication of the concerns about the negative effects of forcing language minority groups to learn through English only or through English-as-a-second language (ESL) feeder programs and English instruction in the classroom. Many of the comments are based on individual experiences or on particular educational philosophies. A few research studies are reported, but for the most part the review of research studies will be conducted in connection with specific issues to be discussed later.

Soffietti (1955) has suggested that psychological or sociological problems arise from individuals' attempts to adjust to two different cultures, rather than from trying to learn two languages.

In an early review of the literature concerning the effects of bilingualism on children, Jensen (1962) reported that some authors believed that thinking in one language and speaking in another would confuse the child and retard learning. In addition, a sense of shame for the native language has been identified as a result of some approaches to learning a second language.

Although they were concerned with educating "disadvantaged students" in general, Jewett, Mersand and Gunderson (1964) opened their discussion with an article which points out the dangers of not taking into account the cultural backgrounds of the students:

> One of the dangerous by-products of the attempt to raise the "cultural" and educational levels of those who are different is that, in the attempt to make them over, our teachers strip them of dignity, of individuality, and of self. (p. 2)

Jones (1967) has criticized schools for suppressing the use of Spanish by Spanish-speaking children and for requiring them to speak English.

> The approach has failed. The alienation toward school on the part of so many Mexican-American children is a direct product of the failure of the "all or nothing" approach to teaching English. The school authorities are correct in knowing that English is mandatory if the Mexican-American child is later to avoid the vicissitudes of unstable employment patterns. Nevertheless, school for many Mexican-American children is a hostile environment, uncomfortable and often embarrassing. Competition for grades is alien to the noncompetitive values of La Raza, mistakes in English may be ridiculed, and often the values of the home are contradicted. Under these conditions, continued use of Spanish not only symbolizes allegiance to La Raza, but also is a symbol of loyalty to the family against challenges to certain components of that institution. Moreover, the easy availability of Spanish-language media in the Southwest blunts the need to acquire English. (p. 115)

As Jones has pointed out, "The development of Spanish-language skills avoids the deprecation of Spanish culture and thereby removes the antagonism of pupils toward English and the culture it represents" (p. 118).

After investigating Puerto Rican dropouts and Spanish-speaking eighth graders, freshmen and seniors still in school in Chicago, Lucas (1970) concluded that the schools did little to improve student self-image or cultural identity. The longer the students remained in school, their reading habits, commitment to doing homework and future aspirations declined. Lucas also found that the dropout rate was greatly reduced when courses in Puerto Rican culture where offered and when there were many Spanish teachers in the schools. However, those still in school were found to have problems of self-concept caused by discrimination, difficulty in relating to their parents, and a progressive estrangement from school.

Macias (1973) has criticized the English-as-a-Second Language (ESL) programs for developing negative self-concepts:

> Its popularity for language instruction in the U.S. is based on its assimilationist purposes and its success in teaching "survival" levels of English, otherwise known as its "practical value" to the student. Its main use in the U.S. with Chicanos has been a pull-out programs where the student is "pulled out" of his/her "regular" classes to learn English for an hour or two a day. Its success at teaching English has been marginal; at teaching self-depreciation, tremendous. (p. 69)

Modiano (1974) has pointed out the importance of language to the attitudinal and perceptual processes of the individual:

> Although the primary purpose of language is communication, what a person communicates and how he communicates it are very much related to his personality and to his culture. The clothing we wear, the way we style our hair, and the language we speak all present us to the world. Through our language we tell others what we think, both about ourselves and the world around us, and with whom we identify. Our language is inexorably tied to our effective selves. What do we tell children when we say, "The language (or the dialect) you bring to school is unacceptable here"? What do we tell them when we say, "There is nothing here written in your language, so learn some foreign tongue"? Not only do we

> make the reading act far more confusing and difficult, but we also tell these children that a central part of their being is unacceptable to us. (p. 163)

The impact of a person from a minority language group being criticized for faulty use of the language of the dominant group can be quite traumatic for the child. Even children belonging to the dominant language group try to avoid the embarrassment of misusing the language of the minority group. Cohen (1974) reports that English-speaking children enrolled in the concurrent (instruction in both English and Spanish) program in California "were reluctant to speak in Spanish in front of native Spanish speakers for fear of being teased" (p. 96). Instead, the English-speaking students felt more comfortable in using English rather than Spanish in the classroom and were able to dominate the Spanish speakers because of their greater command of English and superior reading abilities.

Engle (1975), after reviewing studies regarding instruction through the native language and through the second language, suggests that "learning a second language well may have substantial and long-range personality effects" (p. 21). If children are restricted to situations where only the second language is spoken and are isolated from other speakers of their native language, then they "might show short-term increases in tension and frustration" (p. 21). However, she was not able to identify any studies indicating that the long-term effects of learning in two languages or learning in a second language places the bilingual student at a psychological disadvantage.

The continued practices of denying one the use of his/her mother tongue or of requiring individuals to use a second language have led some observers to speculate on the potential psychopathological effects. For example, Hakes (1965) suggested that the child who is punished for speaking Spanish at school or English at home is likely to stop talking altogether. Diebold (1966) has noted that cases of bilingual psychopathology can be traced to crises of social and personal identity brought about by the pressures of a dominant monolingual society on a bicultural community. Peck (1974) has suggested that more studies should concentrate on the effects of stress arising from self-expression in a second language. He recommends that psychiatrists working with bilingual patients should add the following questions to their assessment of mental status:

1. At what age and in what place did the patient learn the first language?
2. What are the attitudes toward the first language in the current environment?
3. Is the patient under stress, and how is the stress affecting the self-expression in the second language?

Bahoken (1973) maintains that during and as a result of the colonial era, persons in African countries have had the problem of expressing their spiritual attainment in the second or foreign language. This has arisen because the native languages have not had an opportunity to develop proportionally to socio-economic changes, and thus are withering away.

COMMUNICATION

For George Herbert Mead and his followers in symbolic interactionist social psychology, communication is more than a response and more than its content. Communication is "the mechanism by which the individual living his own life in that of the group is placed in the attitude of taking the role of another" (Mead, 1932, p. 83). In Mead's theory of the reflexive formation of self, communication with others is essential. The individual takes on the attitudes of others, and becomes aware of his own responses to these attitudes held by others. In the communication process, the individual considers the parts being played by others and then projects the outcomes that each of these different parts or roles may bring to the total situation. As a result, communication leads to a higher awareness of the community because it involves an active assessment of the attitudes of others in that community or group. As Mead explains:

> The final step in the development of communication is reached when the individual that has been aroused to take the roles of others addresses himself to their roles, and so acquires the mechanism of thinking, that of inward conversation. (p. 84)

Communication, then, is an active process that creates for the individual a social reality and a self as the result of having made indications to one's self. As Blumer (1962) has explained, "Self-indication is moving communicative process in which the individual notes things, assesses them, gives them a meaning, and decides to act on the basis of the meaning" (p. 183).

Blumer (1966), in an analysis of the sociological implications of Mead's philosophy, observes that Mead's treatment of human society "took the form of showing that group life was the essential condition for the emergence of consciousness, the mind, a world of objects, human beings as organisms possessing selves, and human conduct in the form of constructed acts" (p. 535). These central matters Blumer labeled the self, the act, social interaction, objects, and joint actions. Thus, the symbolic interaction theory of communication is characterized by three aspects:

1. It is a formative process in terms of both the individual and the group.
2. It is a continuing process that adapts lines of conduct to one another.
3. It embraces the full range of generic forms of human association. (Blumer, 1966)

That communication is an integrating as well as a defining or formative process has been accepted by many others. Shibutani (1962) points out that Dewey, Park, and Sapir have stressed that society exists in and through communication. Dewey (1929) observed, "No person remains unchanged and has the same future efficiencies, who shares in situations made possible by communication" (p. 204). Thomas (1923) had approached the phenomenon in terms of a common "definition of the situation," Mead (1932) called it "perspectives," and Burke (1935) used the term "orientation." Newcomb (1953) used the word "co-orientation" to describe the strain to symmetry, which in turn encouraged communication between two individuals concerning an object of relevance. Dance (1967) suggested three functions of speech communication, reflecting the theories set forth by Mead:

1. Integration of the individual with his milieu
2. Development of mental processes of the individual
3. Regulation of behavior.

It is not difficult, then, to understand why communication--and language which increases the efficiency of communication--assumes an important role in any explanation of the importance of native language instruction and a bicultural approach to education and training. Jakobovits (1974) has defined biculturalism in terms of communication criteria--shared knowledge and shared inferential reasoning behavior. Shared knowledge involves a linguistic code, semantic structures, certain attitudes, rules of conversation, and rules of the social and physical order of things. Shared inferential reasoning behavior involves expectation of what leads to what under particular conditions. Becoming bicultural requires that the individual recognize that there are gaps in the shared knowledge and the shared inferential reasoning behaviors which must be filled:

> When people interact on repeated occasions and do so for mutual benefit, they will learn each other's communicative premises. Thus, subgroups of habitual interactants form cultural or subcultural identities. When a member of one subgroup interacts with a member of another subgroup he has to readjust his communication premises. It is at this point that he begins the process of becoming bicultural. (p. 111)

However, the communication process breaks down when the member of one subgroup is unable to use the language of the other subgroup, or when the member of one subgroup is unable or unwilling to readjust communication premises. Thus, in the communication situation between the instructor and student in the bilingual vocational training program, both the lack of a common language for instruction and the absence of an understanding of each other's culture will contribute to a breakdown in communication. From the viewpoint of Mead's symbolic interactionist philosophy of communication, the students are particularly handicapped because they are unable to clearly define or understand themselves in relation to the instructor and the instructional situation. In such a situation, the challenge to the self-concept or self-esteem of the student is frequently too great to endure.

SELF-CONCEPT AND SELF-ESTEEM

Though some of the debate surrounding the issue of mother tongue instruction versus second language instruction focuses on the relative efficiencies of those two approaches, much of the literature is either indirectly or directly concerned with the positive effects of bilingual/bicultural instruction on the self-concept or self-asteem of the students. This emphasis appears to be well-placed, particularly so after the literature on the other issues of bilingual instruction has been considered. Perhaps only the concept of "motivation" promises to explain the variations in learning effectiveness by bilinguals as well as does self-concept.

While self-concept has been discussed for nearly a century, much still has to be done to establish the actual behavior impacts of positive or negative self-concept and the causal relationships between self-concept and specific behaviors. For example, a negative self-concept may lead to lower achievement by bilinguals; however, low achievement can be expected to produce negative self-concepts among bilinguals.

Ulibarri and Holemon (1969) have suggested that the negative self-concepts found among bilingual children should be attributed to their status and experiences as minority group members and to the attitudes of their parents.

> The failure syndrome, the timidity complex and self-hatred are all problems that seem to be prevalent among bilingual, bicultural children. This is not because they are bilingual and bicultural, but because they are members of the minority group that has had unsuccessful encounters with a majority group. These attitudes are present in the parents and are reflected in the children. (p. 8)

They note that much needs to be done in terms of providing equal opportunity, learning skills and concepts, and attitude development in order to form more wholesome personalities for these children.

Hernandez (1973), reviewing the findings of several studies as to whether Mexican American students actually have lower self-concepts than Anglo children, reports that the question is largely unanswered.[1] She suggests that part of the problem may be attributed to the "the ambiguity of the variable 'self-concept' in minority children" (p.6) She also notes that:

> Nevertheless, the inferences tend to indicate that although economically deprived and minority children may not necessarily manifest lower self-concepts, it is possible that insofar as academic attainment is concerned, disadvantaged children may perceive themselves as inadequate for a number of reasons.... (pp. 6-7)

Wells and Marwell (1975) have provided the most recent comprehensive treatment of the concept of self-esteem. They have outlined the dimensions of self-conceptualization and have developed and tested a methodology for the measurement of self-esteem.

In order to provide at this point an understanding of the relevance of self-concept and self-esteem, it will be helpful to trace the historical development of these concepts. The discussion will be limited to the symbolic interactionist philosophy of social behavior because this approach seems to provide the best framework for explaining the potential impacts of bilingual/bicultural instruction on the students.

George Herbert Mead has been generally credited with the formulation of the symbolic interactionist theory which explains the processes by which an individual becomes aware of his/her own behavior and uses this awareness to further guide his/her behavior. HOwever, philosophers and pyschologists such as William James, Josiah Royce, James Mark Baldwin, and others in the latter part of the nineteenth century devoted considerable attention to the concept of "self" (Manis and Meltzer, 1967).

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[1] The absence of consistent findings regarding self-concept may be attributed to the different types of scales used to measure self-concept. Some are positively related to achievement and others have been designed so that they are not associated with achievement levels.

Among the first theorists of the symbolic interactionist approach, Cooley (1902) emphasized "self" as an object which the individual comes to experience through others; the individual is more than a respondent to stimuli or performer of actions. This "reflected or looking-glass self" is comprised of three elements: "the imagination of our appearance to the other person; the imagination of his judgement of that appearance, and some sort of self-feeling, such as pride or mortification" (Cooley, p. 152).

Mead (1934), expanding Cooley's approach, regarded the conception of "self as object" as the central mechanism in the human being's adaptation to his world. The individual gives meaning to objects apart from himself by presenting them to himself; at the same time he is giving meaning to himself by differentiating "self" from others and from other objects (Duncan, 1967). Blumer (1962) summarizes Mead's symbolic interaction theory by presenting these presuppositions:

> that human society is made up of individuals who have selves (that is, make indications to themselves); that individual action is a construction and not a release, being built up by the individual through noting and interpreting features of the situations in which he acts; that group or collective action consists of the aligning of individual actions, brought about by the individual's interpreting or taking into account each other's actions. (p. 184)

Mead (1934) held that for full development of the "self" the individual must take the attitudes of others toward "the common social activity" of the group and, through generalization, act toward the social projects that represent the life of the community.

> The individual possesses a self only in relation to the selves of the other members of his social group; and the structure of his self expresses or reflects the general behavior pattern of this social group to which he belongs, just as does the structure of the self of every other individual belonging to this social group. (p. 164)

This "general behavior pattern" of the group, as seen by the individual as a reflection of himself, is called the "generalized other" by Mead. Miyamoto and Dornbusch (1956) explain that the "generalized other" is the "individual's conception of the organized social process of which he is a part" (p. 400). The social process is comprised of many specialized roles, and the individual must find his unique role in that social process.

Mead suggests two stages in the full development of self. First, the self must be defined through the organization of attitudes of others about him and about themselves and the social acts that involve all of them. Secondly, the individual must organize the social attitudes of the group as a whole, processing these in the same way that the attitudes of individuals are processed.

> So the self reaches its full development by organizing these individual attitudes of others into organized social or group attitudes, thus by becoming an individual reflection of the general systematic pattern of social or group behavior in which it and the others are all involved.... (p. 158).

According to Mead, then, the formulation of the attitudes of the "generalized other" is the second stage; role-taking is the first stage.

Though both stages are important for considering the potential impact of bilingual/bicultural instruction, a closer look at the process of role-taking may help to explain how an individual may come to develop a positive or negative self-concept. Role taking, as Mead viewed it, is "strictly mental or cognitive or empathic activity, not overt behavior or conduct" (Coutu, 1951, p. 180). It is a phase in the symbolic process during which the individual attempts to take the part of the other person in order to understand or gain insight into the other person's behavior. Taking the point of view or perspective of the other person permits the actor to anticipate the other's behavior and thus to act accordingly.

More importantly, the process of taking the role of the other person enables the actor to understand the other person's views or attitudes toward himself, the actor. For example, when a Spanish-speaking student is forced to speak only English in the classroom, the student may assume that the teacher believes "there is something wrong" with speaking Spanish. In addition, the student may assume that there is something wrong with himself because he/she speaks Spanish but not English. Similarly, the student may develop a negative self-concept when considering the attitudes of the majority or dominant language group toward himself as a member of a minority language group.

Bossard (1945) provides an indication of the possible connections between bilingualism and negative self-concept. He examined the case study documents of 17 individuals to provide some insight on the relationship of bilingualism to personality development. As a result of his studies, he suggested the concept of *linguistic identification with status* to describe the social process of assignment of status to an individual on the basis of linguistic behavior. In addition, he identified two important variables related to linguistic identification with status: (a) ecological setting, and (b) attitude toward the other langauge. The first variable is concerned with the geographic area in which the bilingual is considered and the normalcy or unusualness of the bilingualism. The second variable describes the effects of the interrelationships between the attitude toward a language and the attitude toward those who use the language. Bossard also pointed out that most bilinguals develop protective devices or behaviors to shield themselves from the consequences of their bilingualism. For example, he suggested four such devices: (a) restrained manner of speaking, (b) inconspicuous behavior, (c) home avoidance, and (d) meticulous English.

As indicated earlier, much of the literature on bilingual/bicultural instruction justifies the need for this approach on the basis of the expected positive effects on the self-concept or self-esteem of the students. For example, Montal Educational Associates' *Position Papers on Bilingual Bicultural Education Manpower Development (1974)* presents a strong case based on the assumed benefits for self-concept or self-esteem. John and Horner (1971) report that bilingual education is supported because it "is a more humane and enriched school experience for the non-English-speaking child and a means toward the development of a more harmonious, positive self-image" (p. xxii).

However, Engle (1975), while noting that the argument may be logically sound, points out that there is no empirical evidence supporting the belief that teaching a child in his/her own language will produce a greater sense of respect for one's self and one's language.

While the evidence is not overwhelming, nevertheless, there is some research which indicates that bilingual education does aid in the development of (or at least is somehow associated with) positive self-concepts. At the same time, it must be fully acknowledged that there is also evidence indicating that second language instruction by itself does not necessarily produce negative effects on the self-concepts of elementary school children.

Finocchiaro (1966) found that Spanish-speaking kindergarten and first grade pupils in New York City who were taught in bilingual classes developed greater self-confidence and cultural awareness.

Cervenka (1967) compared first graders in Del Rio, Texas, who were taught bilingually by Mexican American teachers or in English. He found that the experimental pupils in the bilingual classes not only learned English as well as the control students, but also were better adjusted socially.

McDaniel (1967) compared Anglo, Black and Mexican American children in grades one through six before and after six months of regular schooling. She found that the self-concepts of all of the students--as rated by their teachers and initially compared to the pupils' self-ratings--had declined. In addition, the low self-concepts of Mexican Americans were found to be positively related to inadequate verbal skills.

Wilson (1968) evaluated the influence of educational programs on Mexican Americans in Tucson, Arizona, and found that three factors contributed to their success in formal school programs: a good self-concept, parental love, and teacher care and interest.

Gillman (1969) measured the self-concepts of 428 migrant fourth and sixth grade students, 90 percent of whom were Spanish-surnamed. She found a significant positive correlation between self-concept and measures of intelligence and achievement. In addition, the New Mexico students generally had lower self-concept scores than white students in a Georgia study, but were higher than Black students measured by a Louisiana study.

Lugo (1970) explored the relationship between three degrees of bilingualism of Mexican American pupils from the ghetto in Los Angeles and 56 measures of school achievement in order to develop criteria for pupil placement into programs. He found that the regular school program did not help the Mexican American students in the fifth grade achieve school success, regardless of (a) English language competency, (b) pupil birthplace, (c) parental birthplaces, (d) sex membership, (e) length of residency in the U.S., and (f) scholastic aptitude. Because the Spanish-speaking students of recent residency did not fall behind English speakers, Lugo suggested that positive identification with one's culture is a more powerful motivator for tested achievement than competency in English.

Del Buono (1971) found that seventh grade Mexican American students taught bilingually scored higher in their school achievement and self-concept than similar groups taught in English only. The study controlled for the effects of socio-economic status and mental ability through the use of analysis of covariance.

Covey (1973), comparing Mexican American high school freshmen enrolled in a bilingual program with freshmen enrolled in a regular monolingual or English program, found that students in the bilingual program had significantly better attitudes toward self, school, peers, and teachers.

Zirkel (1975), reporting on an demonstration program involving native language instruction and English-as-a-Second Language for Spanish-speaking pupils, found that the experimental group had signficantly higher self-concepts as compared to the control pupils in an all-English program.

In contrast, English-speaking elementary students enrolled in the St. Lambert Experiment program in Canada were found to have experienced no ill effects as a result of having been enrolled for five years in classes where instruction was given in French (Lambert and Tucker, 1972, p. 206).

Because schooling in French for English-speaking students in Canada has not created negative self-concepts while English instruction for Spanish-speaking students in the United States has been associated with negative self-concepts, apparently the mode of language for instruction is not--*by itself*--a cause of negative self-concepts. Other factors, such as motivation, attitudes toward a language, attitudes toward speakers of a language, and minority group status, may act as important intervening variables in the development of negative self-concepts.

MOTIVATION TO LEARN A SECOND LANGUAGE

It is a common observation that an individual's development of competence in a second or foreign language is directly related to that person's need to do so (Jakobovits, 1974, p. 115). In some nations, the majority of the population can communicate in only one language, while in other nations even children are expected to be multilingually competent. In spite of demonstrations of the fact that individuals can become bilingual regardless of the amount of formal education, many persons hold to the myth that a special ability is needed to learn a second or foreign language.

Gardner and Lambert (1972), in a review of their research on motivation and second language learning, suggest that there is far more to learning a second or foreign language than having "an ear for languages" or possessing a particular "profile of abilities or aptitudes":

> Everyone or almost everyone learns his native language painlessly, so why would not everyone have at least a minimally adequate aptitude profile? And history makes it clear that when societies want to keep two or more languages alive, and learning more than one is taken for granted, everyone seems to learn two or more as a matter of course. (p. 131)

Their research has led them to believe--and has confirmed these beliefs--that attitudinal and motivational factors "play very important roles in the acquisition of a second or foreign language in a variety of North American contexts" (p. 134).

Thus, when the question, "Which is better--instruction in the native lanauge or instruction in the second language?" is raised, the answer might be that "we ask the wrong questions and that language is not the causal variable in successful school achievement" (Paulston, 1974, p. 23). Ervin-Tripp (1973) has pointed that social differences may be more crucial than linguistic approaches:

> I think two major changes have taken place in our views of *language acquisition in* recent years. One is that we now are beginning to see the functions of language in the life of the speaker as of far more importance in its acquisition than we had realized, and the other is that the mechanical view that practice makes perfect has given away....(p. 314)

In terms of the motivations for learning a second language, there are five areas which might provide useful information: (1) orientations or outlooks motivating the learning of a second language, (2) attitudes toward learning a second or foreign language, (3) behavior toward language itself, (4) influence of home, and (5) influence of teachers.

Orientations Motivating Second Language Learning

Gardner and Lambert (1972) have identified two basic orientations toward learning a second or foreign language:

> 1. Instrumental - An outlook which reflects the practical value and advantages of learning a new language.
>
> 2. Integrative - An outlook which reflects the sincere and personal interest of the learner in the people and culture represented by the other language. (p. 132)

They suggest that the integrative outlook or orientation is more important for sustaining a long-term motivation for learning a second language. However, others have found that the instrumental orientation, which focuses on the practical "pay-off" for learning a second language (such as obtaining a job), may also be an important source of motivation (Burstall, 1975, p. 7).

Gardner and Lambert (1972) have acknowledged that both the integrative and instrumental orientations must be developed for the learning task. This may be particularly true in North America, they suggest, where speaking a second language is indispensable for members of minority language groups if they are to cope with and survive in a society where the dominant language is other than their own. Becoming bilingual, however, does not require a loss of identification:

> The challenge for these minority groups or those who import languages is to keep their own linguistic and cultural identity while mastering the second language, and in this regard findings indicate that becoming a bilingual does not mean losing identity. In fact, we are now convinced that striving for a comfortable place in two cultural systems may be the motivational basis for becoming bilingual which in turn is one's best guarantee of really belonging to both cultures. (p. 142)

Though Gardner and Lambert believe that an individual can belong to two cultural groups simultaneously, they acknowledge that a conflict in identity can develop, thus requiring "adjustments in allegiances" (p. 132).

Integrative Orientation

The integrative orientation toward learning a second language indicates that the individual is concerned about communicating with and understanding the behaviors of members of another language group so that the learner might participate in the activities of that group and, perhaps, become an accepted member of that group. At the very least, there is an element of identification with the other language groups.

Gardner and Lambert (1972) suggest, "It seems all the more evident now that learners who identify with the cultural group represented by a foreign or second language are very likely to enjoy an advantage in attempts to master that language" (p. 130). In contrast, the learner who has no desire for identification or who is highly ethnocentric and hostile may have difficulties in learning the second language:

> Such a student not only is perceptually insensitive to the language, but apparently is also unwilling to modify or adjust his own response system to approximate the new pronunciational responses required in the other language. His unwillingness likely stems from the fact that he derives no personal reinforcement in trying to assimilate the new linguistic system. (pp. 134-135)

Negative stereotypes of another language group can "sabotage any educational effort to teach the language of the group in question" (Gardner and Lambert, 1972, p. 140). They report that the best age for language training may be the age of ten, when children are not as apt to equate "different" with "bad."

Weinreich (1967) has suggested that language loyalty may become stronger when the language is threatened, thus blocking the learning of the second language. Conversely, if the threat decreases or is not perceived at all, the child may be more open to learning a second language (Engle, 1975, p. 21).

Gezi (1974) reports on a 1951 study by Johnson examining the attitudes of Spanish bilinguals toward the Anglo culture. Johnson found that racial prejudice increased with age and that the least bias toward the Anglo culture was related to no knowledge of it or a profound experience with it.

Spolsky (1969) has suggested that the concept of integrative motivation is useful for specifying the factors which might account for variation in proficiency and attitude toward a social group. Spolsky studied the attitudes of foreign students attending orientation seminars in the United States and concluded that individuals learn a language better when they want to become members of the group speaking that language.

Lambert and Tucker (1972) reported that students who had been participating in the St. Lambert Experiment program for five years had "unmistakably more favorable attitudes toward French Canadians and European-French people" than the English control group (p. 206). In addition, the experimental group children tended to become more closely identified with French people and the French way of life and thought of themselves as being both English- and French-Canadians in outlook.

Gardner and Smythe (1975) studied Canadian students to determine why the percentage of secondary school pupils studying French has been decreasing. In addition to identifying a set of variables indicating an integrative motive, they found that students who continued in their studies of French had significantly more positive attitudes toward French people than those who had dropped out of the language program.

In a cross-cultural validation study of integrative motivation and language learning achievement, it was found that Filipino students displayed motivational characteristics that appeared to flow from and be sustained by a desire to identify with the dominant language group (Gardner and Lambert, 1972, p. 130).

On the basis of his research on Belgian children, Van Overbeke (1971) suggests that a good comprehension of the cultural life of the neighboring community is propitious for an integrative attitude as well as a positive estimation of bilingualism.

Instrumental Orientation

The instrumental orientation for learning a second language involves learning a language for utilitarian reasons, such as getting ahead in an occupation (Gardner and Lambert, 1972, p. 3). However, Burstall (1975) reports that although other studies have also found that pupils' attitudes and achievement were closely associated, the motivational characteristics appeared to be neither wholly integrative nor wholly instrumental (p. 7).

McDonald and Sager (1975) suggest that motivation is a process rather than a state and thus can be exploited by the instructor. They view initial motivation as being instrumental and comprised of the skills which the learner needs most. Other motivational factors can be divided into practical, cultural and intellectual motivation.

Cohen (1974) investigated the language orientations of Mexican Americans in California. He found that for parents who placed instrumental importance--for getting ahead--on having their children learn English, the best Spanish was spoken in in Spain. He suggests that these parents were more assimilated, and thus saw less reason to identify with Mexico and were more concerned about having their children learn English in order to succeed in the American society. Similarly, those parents who were not so favorable about having their children learn Spanish to preserve their language and culture were also those who believed that the best English is spoken in the United States.

Paulston (1974) has suggested that the contradictory findings of vernacular versus second language programs might be accounted for by the social class membership of the students' families:

> In every single study where monolingual children did as well or better in L(2) instruction than did native speakers, those children came from upper or middle class homes. I suspect that one should add groups which are not stigmatized by attitudes associated with social classes which seem to be the determining influences on learning. (P. 23)

It is commonly assumed that a major factor in the lower performances of minority group students in the schools of the United States is their lower socio-economic status (SES). Hall (1972) measured the need to achieve and other personality variables of 111 lower SES Mexican-Americans, [illegible] lower SES Anglo-Americans, and 207 middle SES Anglo-Americans in their freshman year in community college. He found that socio-economic status--and not ethnicity--was more significant in determining personality traits related to academic success. However, no measure of English-speaking ability for the Mexican-Americans was provided. Gezi (1974) reports the findings of studies which indicate that school performance is positively related to socio-economic status, and that higher status is accompanied by greater adjustment capabilities toward certain concepts. Thus, minority group members may not develop an instrumental motivation to learn the dominant language of a nation because they believe their opportunities to obtaining better jobs and rising in socio-economic status are limited.

Attitudes Toward Learning a Second or Foreign Language

Gardner and Lambert (1972) have argued that attitudes "are a more stable personal characteristic which influence and determine one's progress in mastering a foreign language" than doing well or poorly in a program of language study (p. 143). They based their conclusion on the following points:

1. Attitudes and motivation are usually related to language achievement independent of aptitude and intelligence.
2. The strong relationship between the parents' and children's attitudes suggests that the attitudes are developed in the home, before language training starts.
3. Earlier studies have indicated that the outcome is generally the same when attitudes are measured before language training actually starts.

However, Burstall (1975) has raised questions about the causes of positive language-learning attitudes. Other studies, she points out, suggest that:

> [T]he mere process of foreign language learning is not in itself sufficient to promote positive attitudes toward the foreign culture, although actual contact with the representatives of that culture may be an important factor both in the development of positive attitudes and in the achievement of linguistic competency. (p. 8)

In addition, Burstall cites the findings of a study of the National Foundation for Educational Research in England and Wales which indicates that early achievement in French affected later attitudes toward learning French and later achievement in French to a greater extent than early attitudes affected those two concerns. As a result, Burstall suggests that the learner's initial experience of success or failure may be a powerful determinant of the extent of acquisition of skills and development of attitudes toward foreign language learning in later years.

In addition, Fishman (1974) points out that the positive relationship found by Gardner and Lambert (1972) between success in learning a second language in school and favorable attitudes toward the second language and its speakers may not hold true "in all multinational contact settings" (p. 1728). He points out that his own earlier investigations have uncovered a tendency by first and second generation European immigrants to develop a positive and nostalgic view of their mother tongues after continued use of English in the United States.

Behavior Toward Language

Fishman (1974) has identified three major categories of behaviors toward language: attitudinal-affective; overt behavioral implementation of attitudes, feelings and beliefs; and cognitive aspects of language response. At the present time, adequate research is unavailable in all three categories. For example, Fishman notes the lack of information about attitudinal-affective behaviors:

> We know all too little about language oriented attitudes and emotions (running the gamut from language loyalty--of which language nationalism is only one expression--to language antipathy--of which conscious language abandonment is only one expression) as distinguished from attitudes and emotions toward the "typical" speakers of particular language variants. The features of language that are considered attractive or unattractive, proper or improper, distinctive or commonplace, have largely remained unstudied. (p. 1728)

Fishman points out that the introduction of bilingual education in the United States is an example of recent innovation in support of mother tongue maintenance. However, he indicates that further study of language planning impact on language attitudes and language behaviors is needed. As for the research on the cognitive aspects of language response, Fishman notes that little is known about the characteristics of language maintenance and language loyalty:

> We have little systematic information concerning the circumstances under which language consciousness, language knowledge and language-related groupness-perception do or do not enter into reference group behavior in contact situations. (p. 1730)

Cooper and Fishman (1974) have suggested that more studies be made of language attitudes. They have defined "language attitude" in terms of its referent; that is, language, language behavior, and those referents to which language or language behavior is a marker or symbol. Thus, they include studies of attitudes toward the following:

1. Language itself
2. A feature of a language
3. Language use
4. Language as a group marker.

For example, they investigated the effects of language use on the persuasiveness of a message in Hebrew and in Arabic among a group of Arabic-Hebrew bilingual Muslim adults in Jericho. They found that Hebrew was more effective than Arabic for an argument based on scientific considerations, but Arabic was more effective for an argument based on traditional considerations. In response to direct questions, the message was found to have produced similar content in both languages.

Influence of the Home

The positive impact of parental attitudes for second or foreign language learning by children has long been established. Gardner and

Lambert (1972), citing a number of studies on parental attitudes conducted in the 1950's and 1960's, report that there is a strong correspondence between the attitudes of the two generations toward second language learning and toward the group which speaks the second language. In their study of bilingualism and intelligence, Peal and Lambert (1962) found that French-Canadian bilingual children reported that their parents' attitudes to English-Canadians were favorable, and that the attitudes of the parents of bilingual children were more favorable toward English-Canadians than those of the parents of monolingual French-Canadian children. They concluded that the mastery of English by the bilinguals could be attributed to the positive attitudes of their parents toward the English-Canadians (p. 21).

Gordon (1969) studied 155 first graders from Navajo and Pueblo Indian communities and from local rural Spanish American homes to determine the relationship between the home experience and English language abilities. The children were grouped according to socio-economic status (SES) and degrees of bilingualism. Scores were given each student for language modeling sources, such as the mother, older siblings, and television, and for language modeling contexts, such as speech correction and normal social situations (mealtime) as well as for the total interaction of source and context within the child's home. She found that:

1. Language modeling, which varied with ethnicity, SES and Language Model Type, was predictive of English language ability.
2. The quantity of verbal interaction in the home increased with acculturation and particularly with SES.
3. A significant relationship existed between the English language ability of the child and the language modeling by the mother.

Van Overbeke (1973) investigated the relationship between the attitudes and educational background of Belgian parents and the likelihood of their children to learn the language of the other major community and to integrate its culture. He suggests that the background and attitudes of the parents have a marked influence on the attitudes of their children with respect to the second national language of the country.

Olson and Samuels (1973) have indirectly suggested that the lack of adequate language models in the home may account for the poor performance of some children who are attempting to learn English as a second language. As a result, children are forced to turn to school colleagues and teachers for their models. Thus, to make a logical extension to their observations, it might be assumed that children who have models within their homes as well as outside would display greater ability in the second language.

Influence of Teachers

Engle (1975) reviewed reports and evaluations of school programs using the vernacular language to provide instruction to children who did not speak the dominant language of the country. She concluded that the low quality of teaching or methods is a critical factors in the failure of many programs of language teaching. However, most studies failed to determine whether teachers had limited knowledge of the second language or a lack of training in teaching in the native language, nor did these factors seem to be accounted for in the evaluation designs.

Andersson (1974) has pointed out that the successful teacher of children in the United States whose dominant language is other than English should be bilingual--even bidialectal--and bicultural because he or she must be able to establish empathetic relations with the children, their parents, and with the ethnic community.

Angel (1968) noted that learning a culture that is quite different from the native culture involves the learning of affective components: If teachers do not take care in assessing the impact of these affective components, the "components will produce internal conflict that is psychologically damaging to the individual" (p. 17). He suggests that the "lack of comprehension of the processes of affective development by teachers, almost sole concern for teaching content, and even callousness are some of the basic reasons why the area of affective development has been neglected" (p. 18).

Olson and Samuels (1973) have suggested that children acquire better second language pronunciation than adults because they have access to better accent models, such as teachers and native-speaking classmates. In this regard, Paulson (1974) notes that educators are beginning to understand only recently the importance of teachers serving as role models. Gonzales and Lezama (1974) suggest that the Spanish-English bilingual/bicultural classroom should provide children with two models with which to identify: a Spanish speaker and an English speaker, each reflecting the ethnic characteristics associated with the language.

Gumperz (1970) pointed out that better teaching aids and improved textbooks are not enough to achieve progress in schools where students speak a dialect or language which is different from the dominant dialect or language of the country.

> Middle class adults have to learn to appreciate differences in communicative strategies of the type discussed here. Teachers themselves must be given instruction in both the linguistic and ethnographic aspects of speech behavior. They must become acquainted with code selection rules in formal and informal settings, as well as those themes of folk literature and folk art that form the input to these rules, so that they can diagnose their own communicative problems and adapt methods to their children's background. (p. 142)

Gardner (1965) observed that bilingual children who often do poorly in classes may be at a disadvantage because their teachers may feel inferior to the bilingual students and may demand too much of them. He suggested that teachers of bilingual classes must be willing to accept the child's own dialect rather than forcing the child to follow the dialect of the textbook.

The effect of a teacher of similar ethnic background to that of the students was studied by Garcia and Zimmerman (1972). They found that Mexican American first graders exhibited higher responses in bar pressing behavior when Mexican American examiners praised their performances, in comparison to praise given by Anglo examiners. It was also found that the order of praise (English preceded by Spanish praise) resulted in increased effectiveness. Spanish praise was not affected by order.

FIRST AND SECOND LANGUAGE LEARNING CHARACTERISTICS

The debate concerning the similarities between learning first and second languages is a relatively new concern because scholars have assumed that the two processes were fundamentally different (Ervin-Tripp, 1974, p. 111). Without doubt, first language learning appears--at a glance--to be spontaneous, while second language learning seems to be the result of organized effort (Donoghue, 1968). Littlewood (1973) has pointed out some major differences in first language acquisition by children and second language acquisition by adults:

1. The child is exposed to "primary data" and the adult to "secondary data."
2. The child's acquisition is bound up with his immediate situation, whereas situations have to be contrived in the classroom for the adult.
3. The child uses any means to communicate, including gesture and facial expressions, but the adult in the classroom rarely does--his is therefore disembodied, artificial language. It is difficult to create situations which give an adult the drive to communicate which a child has.
4. Children and adults have a "cognitive" approach, but adults conceptualise; moreover, the adult's native-language system and target-language system interact.

Ervin-Tripp, however, suggests that the differences are more apparent than real, and that research strategies have failed to provide comparable information so that the processes of acquisition of first and second languages might be studied. She identified the following divergencies in the research strategies:

1. Research on second language acquisition has generally been applied in purpose, and has until recently been light on basic and general theory; writing on child language, particularly in the Chomskyan tradition, has been more theoretical, and research has been less applied.

> 2. Child language research, for nearly a century, has used the case study as its primary method, with a focus on stages of development common to various cases. Second language learning studies normally are of large groups, with statistical pooling of information so that individual acquisition patterns are less visible.
>
> 3. Research on child language has focused so heavily on learner strategies that the input to the learner was, until recently, almost completely ignored. Research on second language learning has paid primary attention to manipulation of the structure and presentation of teaching materials.
>
> 4. With some notable exceptions in which additional instructional milieux were added, research on child language has been limited to the natural settings where language is learned, but not taught as a by-product of communicative needs. Research on second language learning has almost entirely occurred in classrooms, where language is taught formally and where language structure rather than communicative intent is the focus of attention. (pp. 111-112)

Theories concerning the similarities between first and second language learning have been based on the assumed dependence of second language learning on the information developed during the learning of the first language. Donoghue (1968) has indicated that concept learning and syntax development in the second language appear to be dependent on knowledge derived from the first language as students attempt to structure the new information on previously acquired information. As Ausubel (1967) has suggested, the second language learner relies on what is already known when confronted with learning a new language. The new learner thus relies heavily on the native language in order to understand the new or second language. As a result, adults learn a second language more readily than children because they have a larger native vocabulary, a more mature understanding of concepts, and are more capable of making generalizations and associations (Ausubel, 1964).

Russ, Gold and Cherulnik (1975) draw somewhat similar conclusions, suggesting that a direct connection exists between the information collected through the first language and that collected through the second language. Connections between stimulus and response, they contend, are mediated through linguistic stimuli and not through the real world:

> Discrimination hinges upon "information," but not necessarily primary information about the world at large. Rather, the information that breaks through and mediates is mostly verbal in nature and not necessarily connected with any physical symbolism. In the learning of a second language, information is a function of other information. (p. 170)

Other have tended to view first and second language learning as processes which have similarities, but they reject the hypothesis that second language learning is dependent upon the direct translation and/or transfer of information collected through the first language. Cook (1973) compared the performance of foreign adults and English children on the imitation and comprehension of relative statements and on the comprehension of deep structure in English. On the basis of the comparisons, she concluded that there is no proof that second language learning by adults takes place in a manner radically different from that of the child. Similarly, Bailey, Madden and Krashen (1974) compared the performance of adults in using eight English functors or grammatical morphemes with an earlier study of five- to eight-year-old children. They concluded that children and adults use common strategies and process linguistic data in fundamentally similar ways. Bebout (1974) tabulated errors in six categories. On the basis of the similar errors made by native American children from nine to 11 years old and by native Spanish-speaking adults, she concluded that there are many parallels between the language-learning strategies used by first- and by second-language learners.

Ervin-Tripp (1974), in her study of second language learning by 31 English-speaking children between the ages of four and nine, found that there are several processes in first and second language learning which are similar, such as the functions of early sentences and their form, their semantic redundancy, their reliance on ease of short-term memory, their overgeneralization of lexical forms, and their use of simple order strategies. However, she suggested that prior knowledge may accelerate progress in some respects so that the rate of development will not appear to be similar for first- and second-language learners.

Moreover, Ervin-Tripp rejected the hypothesis that for children "interpretations of second-lanaguage sentences are directly processed through a translater" because her study indicated that the learner strategies developed for the mother-tongue learners accounted for the evidence better than direct word-for-word translations. (p. 126)

Cooper (1976) cites several earlier studies that support the belief that second language learners acquire the syntax of the new language in developmental stages, much in the same manner as the first language syntax is acquired. In his study, he used quantitative methods to study selected syntactic structures used by four levels of American college students learning German as compared to those employed by a group of professional German writers. On the basis of his findings, Cooper suggests that the process by which the students acquired or used new syntactic patterns indicates the possibility of an innate ability to internalize the basic rules of German syntax. Such a process, he observes, is similar to that by which children learn their mother tongue.

Dulay and Burt (1974), summarizing the findings of a series of their studies concerning second language acquisition by children, suggest that common "developmental errors" may be attributed to similar processes of creative construction of sentence structures rather than to habits based on the first language learning. The creative construction process in child second language acquisition is described as:

> A process in which children gradually reconstruct rules for the speech they hear, guided by universal innate mechanisms which cause them to use certain strategies to organize that linguistic input, until the mismatch between the language system they are exposed to and what they produce is is resolved. The child's construction of linguistic rules is said to be creative because no native speaker of the target language, whether peer, parent or teacher, models many of the kinds of sentences produced regularly by children who are still learning the basic syntactic structures of a language. (pp. 254-255)

Thus, they assume that the learner of a second language is active rather than passive in the process of learning as the child "gradually reconstructs the target language system using certain cognitive stratgegies that remain as yet unspecified" (p. 276). Dulay and Burt suggest that the creative construction process can be described by inferring from accounts of the learner's developing language or interlanguage.

More recently, Taylor (1975) contends that:

> ...Learners of a second or foreign language begin relying on their ability to analogize, systematize, and regularize the target language data to which they are exposed immediately upon beginning to learn the new language. Because of their lack of familiarity with the new linguistic system, however, they also rely extensively on their native language for support. With increased proficiency in the target language, they rely proportionately less frequently on their native language grammar, and rely more frequently on their ever-increasing knowledge of the target language, coping directly with and overgeneralizing its rules. (p. 88)

Thus, as transfer declines with increasing exposure to the new language, overgeneralization of rules increases.

Others have sought to identify differences between first- and second-language learning. For example, Brown (1973), after reviewing a number of studies (including his own) on first- and second-language acquisition, concludes that there may be two different processes:

> Second-language learning may be responsive to familiar sorts of learning variables, and first-language learning may not. The two, often thought to be similar processes, may be profoundly and ineradicably different. (p. 104)

While he admits that biological factors may determine the processes by which children work out rules for the speech they hear, Brown suggests that adults may be more likely to learn a new, second language in terms of selective social pressures. In addition, he suggests that grammatical complexity (when it can be disengaged from semantic complexity) may be in itself a determinant of the order of acquisition of grammatical knowledge.

INFLUENCE OF AGE ON LEARNING A SECOND OR FOREIGN LANGUAGE

For the past two decades, the common belief has been that the optimum age for learning a second or foreign language occurs during the first ten years of a child's life. Although a second or foreign language can be learned during later years, it is believed that it is increasingly difficult to do so. The basis of these beliefs lies in the assumed unique "brain physiology or plasticity" of children between the ages of four and ten that provides a critical enabling factor for language-learning (Penfield, 1953; Penfield and Roberts, 1959). Other somewhat similar theories are the biological predisposition theory and the imprinting theory. All of these theories assume that there is something in the early development of children which maximizes their ability to learn a second language with a native-like pronunciation (Asher and Garcia, 1969).

Without question, there is a considerable amount of literature indicating that the difficulty of learning a second or foreign language increases with age (Taylor, 1970; Bordie, 1971; Burstall, 1975). However, other studies have indicated that the optimum age may be extended beyond the ages of four through ten and that adults can learn certain aspects of a second or foreign language more efficiently than children.

In her review of the literature on the optimum age for learning a second or foreign language, Burstall (1975) pointed out that Penfield's influential views were based on logical inference rather than on empirical data. In addition, Bordie (1971) has questioned the use of information collected on subjects who had accidental brain damage in order to make inferences to the general population.

As for the findings of the observational and empirical data produced from studies of age differences, Burstall (1975) concludes that increasing age creates positive rather than negative effects:

> Thus, the most conservative interpretation which the available evidence would appear to permit is that the achievement of skill in a foreign language is primarily a function of the amount of time spent studying that language, but is also affected by the age of the learner, the older learners tending to be more efficient than younger ones. Penfield's contention that the first ten years of life constitute a "critical period" for foreign-language acquisition remains unsupported by direct, experimental evidence. (p. 21)

Because the literature reports divergent findings regarding the relationship between age and learning a second or foreign language, some of the more recent studies will be discussed in order to indicate the concerns of researchers.

If children are more efficient than adults or adults are more efficient than children in learning a second language, then differences in learning processes and learning rates should be identifiable. However, several investigators have concluded that adults and children use similar processes or strategies to process new or second language linguistic data (Bailey, Madden and Krashen, 1974; Smith-Gold, 1975). Cook (1973) has noted that there is no proof that second language learning by adults takes place in a manner radically different from that of children who are learning that language as the mother tongue. In a review of the literature concerning the introduction of instruction of a second language, Bordie (1971) concluded that there is no discernible difference between children and adults in language learning skills. Furthermore, if communication (rather than native-like pronunciation) in the second language is all that is needed, then instruction may be postponed until the time needed, regardless of the age of the student.

Others have tended to assume that there are differences between adults and children in learning a second language, but they have focused their concerns on the needs of adults and, more significantly, have found that older persons are more efficient in learning a second language than are children. For example, Ervin-Tripp (1968) suggested that for children under 11 years of age language is sound but for adults it is sense, because adults penetrate the surface of an utterance to its meaning and to a network of connected thoughts. She also suggests that if there are neurological differences between children and adults in learning a second language, then the pedagogical implications are also quite different. In this regard, it should be noted that Regan (1969), Oskarsson (1973), and Smith-Gold (1975) have suggested that different techniques are required to teach adults a second language.

Many studies of the comparative learning efficiency among children and adults have found that children are more likely to acquire a native-like pronunciation of the second or foreign language. For example, Asher and Garcia (1969) examined 71 Cuban immigrant children between the ages of seven and 19 and compared their pronunciation of four sentences with the pronunciation of 30 American children. They found that there was an inverse relationship between the age at which the child entered the United States and the acquisition of near-native pronunciation. The younger the child, the more likely it was that the child would have native-like pronunciation. In addition, the probability increased with the longer time the child had lived in the United States. While they acknowledged that there may be a biological determinant in children which accounts for pronunciation fidelity for second languages, they also point out that some older children did achieve an excellent pronunciation.

However, a more recent study indicates that adults learn a second language better than children do. Olson and Samuels (1973), in their study of elementary, junior high, and college students, found that the older students learned to pronounce 36 difficult German phonemes with a more native-like accent than did the younger students. All of the students were English-speaking Americans who had no previous formal foreign language instruction and who came from homes in which no foreign language was used. As a result of their findings, Olson and Samuels suggest that "there is good evidence . . . that the age-language acquisition relationships favoring younger students hold for first language only" (p. 267). While they allow that biological conditions may be important in primary language learning, they suggest these conditions are not important in second language learning. As an explanation as to why children apparently acquire better second language pronunciation, they point out that children have greater access to models with good accent, such as native speaking classmates and teachers.

Carroll (1971) has indicated that there may well be a "large biological component" affecting first language acquisition and that language is acquired as part of the developmental maturing of the brain. However, he suggests that there is a lack of strong evidence to support the "critical period" theory and the belief that language acquisition ability declines during the middle school years. If there is some decline with increasing age, he suggests an alternative explanation:

> [I]t is due to the consolidation of the habits established in primary language acquisition and their interference with the acquisition of new habits. Further, it may be that the large individual differences in foreign language aptitude that can be observed reflect individual differences in the rate of decline. (p. 109)

Ervin-Tripp (1974) has provided some insights as to why older children (and presumably adults) might be more efficient learners of a second language. In a study of children from four through nine years old, she found that the older children learned phonology, morphology, and syntax faster than the younger children involved in the study of second language learning. Her reasoning in support of the better performance by the older children was based on the following grounds:

> 1. Oral languages are alike more than they are different. The older learner has already discovered some basic principles of phonology. If he has learned to read a syllabic or morphophonemic written language he has acquired a fairly abstract knowledge of oral language phonology.
>
> 2. Languages tend to have similar semantic content. By and large the major changes we find in acquisition of the mother tongue with age are related to semantic development. The older child has a fuller semantic system, so he merely needs to discover a new symbolic representation. There will of course be errors in the cases where the semantic properties differ, but these are minor compared to the burdens of a child learner at a similar stage of syntax.
>
> 3. The older child has more efficient memory heuristics, related to his greater knowledge. Because he can learn both strings and single items faster, he may map new vocabulary into storage too quickly, before he has enough text to discover the semantic and structural distribution, in those cases where there is a slight difference.
>
> 4. The older learner is smarter. The child's capacity to solve problems, to make sub-rules, to carry in mind several principles increases with age. We would expect rule learning to be faster with age in both phonology and syntax. (p. 122)

An obvious factor affecting differences among children and adults in learning rates for a foreign or second language are the conditions under which the language is learned. Burstall (1975) concluded that there is no doubt that adults are more efficient learners--if they are given equal time for learning the language and if it is true that adults have developed more efficient learning strategies. However, she did acknowledge that some studies have indicated that the effect of time for learning may decline with age for skills such as speaking and writing but perhaps not for listening and reading. Asher and Price (1967) have found that if children do learn a second language better than adults, the children excell because they profit from learning through play activity which requires physical action responses. Adults, however, generally learn a new language independently of physical behavior. To test their observations, Asher and Price controlled the activity factor by having both childen and college students placed in similar act-act and observe-act learning situations for learning Russian. After comparing the listening comprehension of the children from eight to 14 years of age with that of adults, they concluded that "when adults learn a second language under the same conditions as children, the adults are superior" (p. 1125). They emphasize, however, that the findings relate to listening fluency only.

Similarly, Smith-Gold (1975), noting that adults require more than a superficial knowledge of a language, suggests that a language experience approach be used for adults who are learning English as a second language. By building on the learners' experiences and needs, their language learning activities can be related to the community and to their social roles.

Perhaps one of the more striking pieces of evidence indicating that adults can learn a foreign language as well as children has been collected in Sweden. Levin (1972), comparing five groups of children at various ages and a group of adults ranging from 17 to 60, found that the adult group made more raw score progress than all five groups of school children. However, in terms of actual progress compared to possible progress, the adult group made more progress than three of the five children's groups. It should be noted, though, that the study was conducted to examine the effectiveness of two language learning approaches, rather than to compare the relative efficiency of the age groups. Within the adult group itself, Levin found that the younger subjects (25 and under) achieved significantly better than the older subjects (41 and over). No hypothesis had been formulated about the age factor, however.

EFFECTS OF BILINGUAL INSTRUCTION ON THE NATIVE LANGUAGE

As it might be assumed, instruction of children conducted in their native language has been found to improve the child's use of the mother tongue. This outcome is apparently so obvious that few studies report findings related to this concern. However, very recently reported studies have lent full support to the language maintenance viability of instruction in the native language for Spanish-speaking children.

Paulston (1974) reports that a study conducted by Malherbe in South Africa during the 1940's among monolingual (Africaans and English) and bilingual children found that students in bilingual schools performed significantly better in attainment of both languages as well as in geography and arithmetic. (However, Malherbe also found that the greatest gains were made in the second language by students in the lower intelligence groups.)

Valencia (1970) found that early Spanish-language instruction for school children with Hispanic or Mexican-American backgrounds resulted in improvement in Spanish vocabulary, spelling and reading comprehension. However, the Spanish language programs had no notable effect on English language development in the school curriculum. Harris (1973) reported that bilingual physical education instruction resulted in an improvement in Spanish vocabulary and language through instructor-student interaction.

Ramirez and Politzer (1975), after studying proficiency in grammar by 40 Spanish-surnamed students in kindergarten and first, third and fifth grades, report that the continued use of Spanish in the home does not affect children's acquisition of English. Their study found little relationship between achievement in English and Spanish and between the factors accounting for differences in achievement on tests scores of the students in English and Spanish grammar. In short, they found that a loss of Spanish proficiency was not related to increased proficiency in English grammar. They suggested the children's acquisition of English was the result of continued exposure in the school environment, while proficiency in Spanish was determined by the use of Spanish with the parents in the home.

Cohen (1975) has conducted the most complete study of the effect of several years of bilingual schooling on language maintenance. In his study of 14 bilingually-schooled and 16 conventionally-schooled Mexican-American children and their parents, Cohen reported the following results:

1. Mexican-American students in the bilingual program were found to be using Spanish more after several years than comparable children schooled conventionally.
2. Mexican-American students in the bilingual program continued to use Spanish more than English over time, while comparison students schooled only in English shifted to greater use of English.
3. Family language use patterns were not noticeably associated with their child's participation or non-participation in the bilingual program. (pp. 7-9)

He concluded that the formal schooling in Spanish and the use of Spanish as a vehicle for learning other subject matter "appeared to have acted as an incentive for them to continue to use Spanish regularly in a variety of social interactions" (p. 10). For more detailed information, see Cohen's recent book, *A Sociolingustic Approach to Bilingual Education: Experiments in the American Southwest.*

There is another aspect of the effects of bilingual instruction on the native language of students which might be briefly discussed at this point. The success of the St. Lambert Experiment in Canada whereby English-speaking elementary students were "immersed" in programs where the entire instruction was conducted in French, encouraged other programs in Canada and in the United States. In contrast with the findings of traditional second language instructional programs, it was found that the students in the immersion programs maintained their native language skills while developing relatively comparable skills in the second language.

In their study of the St. Lambert Experiment, Lambert and Tucker (1972) reported the following findings:

> After five years, we are satisfied that the Experimental program has resulted in no native language or subject matter (i.e. arithmetic) deficit or retardation of any sort, nor is there any cognitive retardation attributable to participation in the program. In fact, the Experimental pupils appear to be able to read, write, speak, understand, and use English as competently as youngsters instructed in the conventional manner via English. During the same period of time and with no apparent personal or academic costs, the children have developed a competence in reading, writing, speaking, and understanding French that English pupils following a traditional French-as-a-Second-Language program for the same number of years could never match. (p. 152)

After seven years, Lambert (1974) and Bruck, Lambert and Tucker (1974) reported that the Experiment had been successful. The English-speaking elementary school children taught in French and English for seven years could read, write, speak, understand and use English as well as the students taught solely in English. In addition, they displayed a better command of French than did students who had been taught French as a second language.

Swain (1974) reports that French immersion students in the lower elementary grades have performed as well as their English-instructed peers on English tests. As for skills in English, he reports that the French-immersion students quickly catch up to their English-educated peers if they are introduced to English language arts skills at the second, third or fourth grade levels. Apparently, instruction in the second language results in a transfer of reading skills to the native language when English instruction is introduced later.

Barik and Swain (1974) compared the performances of partial and full immersion programs in French for English-speaking children in Canada. They found that the partial immersion students tended to lag behind full immersion and regular program students in several English language skills, but reading was at a comparable level with other students. In addition, performance in French by the end of the third year was more in accordance with other reference groups. They suggest that the chances for success of the partial immersion program in subsequent grades are good. Barik and Swain also reported that a partial immersion program in French and English had produced French attainments that were as good as the total immersion French programs, and that, except for a temporary initial decrease in native language skills, there was no adverse effect on general cognitive development.

Barik and Swain (1975) report that a study of a K-2 total immersion program in Ottawa public schools indicated that students in the immersion program perform as well as students in the regular program at an equivalent level of mathematical skills and have the same level of cognitive development. Immersion students initially fall behind in English language skills but quickly catch up after being given an hour in English skills during grade two. However, immersion students performed better than students in a French-as-a-second language program, and do reasonably well in comparison with French-speaking pupils.

A similar immersion project where English-speaking students at the kindergarten level in Culver City, California, were taught in Spanish has also been found to be successful. Cohen (1974) reports that the English-speaking students are acquiring competence in understanding, speaking, reading, and writing Spanish, while still maintaining their English-language proficiency. In content areas such as mathematics, the experimental group was found to be performing on a par with children being taught in their native English.

BILINGUALISM AND INTELLIGENCE

Investigations of the effects of bilingualism on intelligence have been conducted since the early 1920s with mixed results (Weinrich, 1953; Haugen, 1956; Carrow, 1957; Peal and Lambert, 1962; Darcy, 1963). In large part, the credence given to those findings indicating that bilinguals score lower on intelligence tests has been supported by negative stereotypes of persons of lower economic status in the United States who speak a mother tongue other than English. In addition, the studies of the relationship between bilingualism and intelligence have been hampered by a lack of common definitions (Haugen, 1956, pp. 80-81) and by the absence of sound research methodology (Weinreich, 1953, p. 116; Peal and Lambert, 1962, p. 4; Engle, 1975, pp. 24-25). Darcy (1963) identified the following problems affecting the findings of research on bilingualism and intelligence:

1. Confusion in defining and identifying bilingual individuals.
2. Difficulty of measuring the various degrees of bilingualism.
3. Variety and adequacy of the tests given.
4. Difficulty of isolating the effect of bilingualism from social, economic, political and psychological factors.
5. Use of tests with time limits, thus placing an undue emphasis on speed and thereby confounding the results.
6. Bilingual subjects differ as to when their second language was learned.
7. Appropriateness of measuring a person's intelligence in a second language (since language proficiency is assumed to be related to conceptual thinking).

In spite of the mixed findings regarding the relationship between bilingualism and intelligence, early authorities on bilingualism doubted that bilingualism could be equated with lower intelligence. Weinrich (1953) concluded that "the majority of experimenters deny the allegedly evil effects of bilingualism on mental development" (p. 117). Haugen (1956) reached a similar conclusion:

> Intelligence tests involving verbal performance show an average linguistic retardation of one to two years for school pupils whose first acquaintance with the test language was in the post-infant period. The absence of retardation on non-verbal tests shows that the language handicap is not due to lack of intelligence or to intellectual confusion, but to lack of opportunity for learning all aspects of the language. (p. 86)

Darcy (1963), in her review of the literature, concluded that when non-verbal ability tests were used and the socio-economic factor was controlled, bilingual children were not found to be inferior to monolingual children.

More recent investigations have indicated that the cultural components of verbal intelligence tests have placed bilinguals (or those of minority cultures) at a disadvantage when compared to their monolingual peers. Macnamara (1970), in a critical review of several concepts basic to bilingualism, questions the assumption that there is a direct causal connection which would make intelligence dependent upon bilingualism. He points out that the poor performance of bilinguals on verbal tests (but not on nonverbal tests) is an indication that the "grasp of the language variety in which an IQ test is couched can affect the outcome of the test--an honest but hardly a surprising discovery" (p. 70).

Smith (1974) examined the cultural components of 14 Binet tests revised for nine countries from 1908 to 1960. She concluded that test scores were lower for groups with characteristics differing from those of the original normative sample and that some Binet test items were more responsive to cultural influences than others. She suggested that test items with a greater cultural loading were those which were dependent upon schooling and other learned cultural factors. Thus, the philosophy of the test constructor determined whether a test would yield greater or lesser differences in IQ between children of the same age.

Perhaps the most definitive study of the relationship between bilingualism and intelligence was conducted by Peal and Lambert (1962) on groups of monolingual and bilingual 10-year-old children from six Montreal French schools. The students were administered verbal and non-verbal intelligence tests and measures of attitudes toward the English and French communities. Contrary to many previously reported findings, the study found that balanced bilinguals performed better than monolinguals on verbal and nonverbal intelligence tests. Peal and Lambert admitted that the causal direction of the relationship could not be determined for that study:

> It is not possible to state from the present study whether the more intelligent child became bilingual or whether bilingualism aided his intellectual development, but there is no question about the fact that he is superior intellectually. In contrast, the monolingual appears to have a more unitary structure or intelligence which he must use for all types of intellectual tasks. (p. 20)

Peal and Lambert suggest that bilinguals may have produced higher performances as a result of the following factors:

1. Bilinguals have a wider range of experiences as a result of participating in two cultures.
2. Bilinguals displayed a larger degree of mental flexibility.
3. Bilinguals have a more diversified set of mental abilities in the sense that the patterns of abilities developed by bilinguals were more heterogeneous.

4. Bilinguals had more favorable attitudes toward the English (whose language they were learning) and less favorable attitudes toward the French.

Cummins and Gulutsan (1974) replicated the Peal and Lambert study and found that balanced bilinguals performed significantly better than monolinguals on several measures of reasoning and divergent thinking. In addition, later studies by Lambert and his associates revealed that no negative effects on intelligence could be identified as a result of bilingual education programs at the elementary school level (Lambert, Just and Segalowitz, 1970; Lambert and Tucker, 1972).

Studies of children from backgrounds where languages other than French and English have been involved have produced similar results. A study of Hebrew-English bilingual children tests in the United States and in Israel also found that compared to monolingual children the bilingual children displayed higher cognitive flexibility or ability to mentally shuffle material (Ben-Zeev, 1972). Van Overbeke (1971) studied French-English bilinguals in Switzerland and found that balanced bilinguals achieve significantly superior performances, especially in verbal plasticity, in comparison to monolinguals with the same intelligence quotient.

Thevenin (1969) studied the vocabulary development, linguistic age and mental age of Spanish-French bilingual children who were six and seven years old. The results indicated that intelligent children are not retarded by bilingualism in their development, but children with lower intelligence displayed a significantly lower rhythm of development due to the effects of bilingualism.

EFFECTS OF BILINGUAL SCHOOLING ON ACHIEVEMENT IN OTHER SUBJECTS

Studies investigating the effects of bilingual schooling on achievement levels in subjects other than those directly concerned with language are relatively rare. Some research has been conducted on the performance of bilinguals who have been taught mechanical arithmetic, problem solving, and science. Other studies have investigated the relationship of bilingualism with creative thinking and reasoning.

The findings are mixed in regard to bilinguals as compared to monolinguals in achievement performances in other subject areas. In addition, all of the studies have been conducted with children rather than adults. Thus, there is little direct research support for statements such as the following:

> In those instances where the adult student is needful of instruction that would lead to some skill or trade, then it would again seem appropriate that such instruction be given in his native language. The alternative would be to postpone such instruction until the student has acquired a high degree of proficiency in English. For most adults such a postponement would be to his great economic disadvantage. We, again, must recognize that current ESL methods cannot simultaneously teach the adult student English and give him technical or complex instruction in that language. (Campbell, 1970, p. 304)

Intuitively, one should expect that a student's weakness in understanding through a second language should contribute to the retardation of achievement to the extent to which learning another subject requires a command of the language in which it is taught (Macnamara, 1967, p. 123). To an extent, this view has been indirectly supported by the studies of bilinguals' achievement in mechanical and problem solving arithmetic. For example, Macnamara (1966; 1967) has found that bilinguals perform as well as monolinguals in mechanical arithmetic, but fall behind monolinguals in performing problem solving arithmetic. Logically, one might anticipate these results for mechanical arithmetic because both bilinguals and monolinguals must learn the symbols and processes of arithmetic (which might be viewed as a "language" in itself). However, when understanding of a problem and instruction in a second language are added to the arithmetic processes, bilinguals would be at a disadvantage when they must use a language with which they are not familiar.

Engle (1975), noting the paucity of research on learning educationally-related skills in the vernacular and in the second language, concluded:

> Clearly children will learn less well if they do not understand what is being said. Therefore, the argument in favor of beginning instruction in the second language, or using the second language as a medium of instruction, depends on the manner in which the second language is taught (situationally or structurally), and the children's previous knowledge of the language from home or cultural exposure. A third critical factor is the length of time that the investigators allow before making a final assessment of the achievement of the children. The longer time to learn the second language, the more nearly the performance of the bilingual children will be equivalent to that of the monolinguals.... The effect of the age and facility with second language learning might also be a factor in explaining decreasing disadvantages for the students in bilingual classes. (p. 22)

The discussion in the following subsections will concentrate on the effects of bilingual or monolingual instruction on (1) concept learning, (2) creative thinking, (3) achievement in arithmetic, and (4) achievement in science.

Bilingualism and Concept Learning

The Whorfian hypothesis of the impact of language on thought suggests that the cognitive development of the individual is shaped by the individual's language. While it is clearly true that language is a system which provides for the higher refinement of concepts and thought, Whorf's view that language structures thought in predetermined ways has come under increasing criticism (Macnamara, 1970).

Presented below are two recent views on the relationship between language and concept development or thought.

Ausubel (1968) has indicated that language contributes to concept formation and problem solving in the following ways:

> First, the representational properties of words facilitate the transformational processes involved in thought. Second, verbalization of the emerging subverbal products of these operations, prior to naming them, refines and enhances their meanings and thereby increases their transfer power. (p. 82)

He suggests that verbalization must be considered an integral part of the thinking process because through its refining functions it "adds a great deal both to the meaning and transferability of the products of thought" (p. 82). However, he does concede that concepts can exist intuitively (and thus, presumably, without direct expression through language). But language does play a "central facilitating role in the acquisition of concepts" (p. 523).

Menyuk (1971), however, has provided an apt summary of the theory that cognitive and linguistic functioning may be separate processes, although they do meet in particular task situations. Thus, she raises the question of the nature of the dependency of cognitive tasks on language:

> Language acquisition and development is obviously dependent on sensory-motor processes, and if these processes are what is meant by cognition, then, clearly, language usage is dependent on cognition. These processes, however, also obviously underlie

> further cognitive development or "higher mental functions." No conclusions can be drawn about whether language provides the bins and structures for the sorting and use of experience, or whether the sorting and use of experience provide bins and structures for language. (p. 15)

Others have been more directly concerned about the relationship of bilingual instruction to concept development. Valencia (1972) has pointed out that justification for bilingual instruction is based on the premise that the speed with which the child internalizes and applies concepts and skills is significantly related to ability in the language through which the concepts and skills are taught. Readiness for learning through a second language is dependent on individual readiness, the nature of the subject matter, and the learning activity.

John and Horner (1971) have suggested that if one accepts the view that language plays an important cognitive role in the development of a child, then the use of a second or weaker language for instruction weakens the development process. They suggest that one of the major benefits of bilingual education is that it helps the child develop the native language for use in problem-solving. Once these skills have been learned, they may be applied to learning and using the second language. If, however, an attempt is made to teach a second language before the child has developed cognitive skills in the native language, John and Horner suggest that "the child may become a 'non-lingual' whose functioning in both his native and second languages develops in only limited ways" (p. 171).

John (1970) suggests that, in instructing children to learn a second language, teachers often fail to provide the necessary experiences for cognitive growth. The absence of instruction for cognitive development for children from the ages of four to seven is particularly crucial because that is the stage at which children are beginning to use language at an accelerated pace to solve problems.

Collison (1974) sought to examine the concept formation capabilities of children when they are taught in a second language. He compared the expressions about science concepts and materials as given by Ghanaian children in their native language (Ga or Twi) with their expressions in their school language (English) during science teaching colloquia. The results indicated that the vernacular language allows for better conceptualization by the pupils than did the second language, English. When the children used their vernacular language as opposed to English, "they made more statements, their statements were more often at the complex and preconceptual level, they reported more relationships based on non-obvious linkages, and they used models more frequently" (p. 454). The statements in the vernacular were also more complex in structure, involving more dimensions simultaneously. Collison concluded:

> If concepts are to be meaningful at the children's maturational level, the language for communication of the concepts to and among children is crucial. When the language is foreign, children may mimic adult concepts without any appreciable contribution toward their own conceptual growth. If they can not express the ideas or discuss them with their peers, conceptual growth may be stalled or impaired. (p. 455)

Gumperz (1970) observes that "sole concentration on the technical aspects of reading, grammar, and spelling may so adversely affect the learning environment as to outweight any advantages to be gained" (p. 142). Paulston (1974), in her review of the literature on language learning theory related to language planning, also supports the view that language instruction must involve concept-learning in that language if it is to be effective:

> Children in primary schools do not seem to learn a language well if it is taught only as a subject matter with second language techniques, especially if those techniques are classic audio-lingual. Unless a child understands and can use a language to communicate, he will not gain any proficiency in that language. There is general agreement that children's proficiency in their L(2) is directly related to the years it has been used as a medium of instruction in subject matters other than the language itself. This, however, presupposes fluent, if not native, teachers. (pp. 26-27)

Russ, Gold and Cherulnik (1975) have suggested that learning a concept through a second language may provide a greater amount of verbal storage, thus developing stronger ties for the concept in the individual's repetoire. They indicate that this seems to be the case for bilinguals:

> Those concepts for which there are longer and more involved explicatory processes gave rise to more impacted, intense meanings. Therefore, the more verbal attachments that, for example, a bilingual has for any given number of concepts, the more usable those concepts. (p. 170)

The Russian psychologist L.S. Vygotsky has provided an explanation of the acquisition of simple and complex concepts which provides some support for the development of concepts in a second or foreign language. However, it should be noted that Vygotsky did assume that "success in learning a foreign language is contingent on a certain degree of maturity in the native language" (p. 110).

Vygotsky, whose research on thought and language has been influential among western linguists, has distinguished between "spontaneous" or familiar concepts and "scientific" or school-learned (social science) concepts with regard to learning achievement by bilinguals or learners of a foreign language. Vygotsky (1962) has suggested that children are capable of learning "scientific" concepts more quickly than "spontaneous" concepts because a higher form of consciousness has been developed through the classroom explanation, examples, questioning, and corrections.

For example, eight-year olds were able to use correctly the concept of "because" in spontaneous or informal situations, yet in more formal testing situations they made errors such as: "The boy fell off his bicycle because he was taken to the hospital." Thus, Vygotsky suggests that once "scientific" concepts are mastered, they can be applied correctly in informal situations. In effect, a type of transfer of learning has taken place. According to Vygotsky:

> The influence of scientific concepts on the mental development of the child is analogous to the effect of learning a foreign language, a process which is conscious and deliberate from the start. In one's native language, the primitive aspects of speech are acquired before the most complex ones. The latter presupposes some awareness of phonetic, grammatical, and syntactical forms. With a foreign language, the higher forms develop before spontaneous fluent speech.... The child's strong points in a foreign language are his weak points in his native language, and vice versa. (p. 109)

In short, Vygotsky suggests that "the development of the child's spontaneous concepts proceeds upward, and the development of his scientific concepts downward, to a more elementary and concrete level" (p. 108). Since the two processes are closely connected, "development of a spontaneous concept must have reached a certain level for the child to be able to absorb a related scientific concept" (p. 108). Vygotsky elaborates on this relationship:

> In working its slow way upward, an everyday concept clears a path for the scientific concept and its downward development. It creates a series of structures necessary for the evaluation of a concept's more primitive, elementary aspects, which give it body and vitality. Scientific concepts in turn supply structures for the upward development of the child's spontaneous concepts toward consciousness and deliberate use. Scientific concepts grow down through spontaneous concepts; spontaneous concepts grow upward through scientific concepts. (p. 109)

Relationship Between Bilingualism and Creative Thinking

Carringer (1974) examined the relationship of bilingualism to creative thinking abilities among 12 Spanish-English coordinate bilinguals and 12 Spanish monolinguals, all of Mexican descent. He found that bilinguals were superior in figural fluency, verbal flexibility, verbal originality and figural originality as measured by four subtests of the Torrance Tests of Creative Thinking.

Jacobs and Pierce (1966) studied English speakers, Greek-Americans, Spanish-Americans and Czech-Americans to determine the relationship between bilingualism and creativity. Using the Word Meanings and the "Uses" tests to measure creativity, they found that generally bilinguals were more creative than monolinguals. The bilinguals scored higher on the non-verbal "Uses" test, but were slightly lower on the Word Meanings test.

Bilinguals' Achievement in Arithmetic

After an extensive review of the literature concerning the performance of bilingually-schooled students in arithmetic, Macnamara (1966) has concluded that "bilingualism does not effect children's progress in mechanical arithmetic provided they are taught throughout in one language" (pp. 40-41). This conclusion was supported by Macnamara's own study of English-speaking Irish children who were taught arithmetic in Irish (p. 136). While he acknowledges that different results have been obtained in earlier studies, Macnamara suggests they may have been due to different measures of arithmetical achievements and to the lack of controls for certain variables, such as school, non-verbal IQ, and socio-economic status.

However, both Macnamara's (1966) review of studies concerned with problem solving arithmetic and his own investigations indicated that "bilingualism is associated with relatively poor standards in problem arithmetic" (p. 42). This poorer performance occurred even when the components of the problem were separately understood by the bilingual children (Macnamara, 1967, p. 125). In explanation of the greater difficulty in solving problems in the weaker language, Macnamara suggests the following factors:

> [T]he bilingual has greater difficulty in making out the meaning, and, because of the extra attention he must pay to that task, greater difficulty in recalling other parts of the message while decoding a particular section. Consequently he has greater difficulty in picking out what is relevant to his purpose and discarding the remainder. (p. 131)

In contrast, the bilingually-schooled student performs better on mechanical arithmetic problems because he/she is simply "required to carry out an arithmetical operation indicated by an arithmetical symbol, whereas in tests of problem arithmetic he is required to read and interpret prose passages. Language, therefore, plays a much larger role in the latter type of test" (p. 122).

However, Lambert, Just and Segalowitz (1970) reported that English-speaking Canadian children taught mathematics in French performed as well as the monolingual students at the end of their instruction in the first grade. After both groups had completed the second grade, the bilingual students performed as well as the monolingual students on English tests measuring the arithmetic concepts and the problem solving ability, and were significantly better than the controls on tests of speed and skill in computation. Lambert and Tucker (1972) reported that the bilingual students performed as well as the French control students at the end of grade 4 in the areas of grasping, assimilating and utilizing mathematical principles. Bruck, Lambert and Tucker (1974) found that at the end of the seventh year of the St. Lambert Experiment, the experimental pupils continued to perform as well as the pupils enrolled in regularly taught mathematics classes. However, they found some indication of poorer mathematical performance during testing after the sixth year.

Lambert, Tucker and d'Anglejan (1973) found that the development of bilingual competence in Canadian children by teaching English-speaking students through French as a medium of instruction did not result in any negative effects on cognitive development. The results also indicated that the experimental students performed as well as the control students in content subjects such as mathematics and science.

Bilinguals' Achievement in Science Subjects

Two studies of science instruction for students of Spanish background in the New York City school system indicated that achievement in science could be improved through instruction in Spanish. In the first study (Loretan and others, 1964), two seventh-grade classes of similar age, language background and abilities received instruction in Spanish, used a Spanish test and were given a course in the Spanish language. The results indicated improvement in science and Spanish and a reduction in anxiety. However, no improvement in

English was noted. In the second, more extensive study of 994 seventh-grade students, Raisner and others (1964) found that achievement in the experimental group was superior in science and Spanish, but not in social studies or mathematics. In classroom English, the experimental students performed as well as controls.

In a study of 51 fifth and sixth grade Chinese immigrant children, Ng (1970) found that the bilingual group (English and Cantonese) performed better than the monolingual (English only) group on vocabulary and conceptualization in science, but not in comprehension achievement.

Collison (1974) conducted a study of 85 sixth graders (12-14 years old) in Ghana who had studied English for about six years. The students were trained to manipulate manually and then discuss science materials. It was concluded that the students functioned at higher conceptual levels in their vernacular languages (Ga or Twi) than in English.

However, Stern and Ruble (1973) found that pre-school, Spanish-speaking children did not do better in learning a new concept when they were taught in Spanish rather than in English or when they were taught bilingually. In addition, transfer of learning was identified when children taught the concepts in English performed as well on a Spanish language criterion test as the children who were taught the concepts in Spanish or who were taught bilingually.

APPENDIX A

BASIC OCCUPATIONAL LANGUAGE TRAINING (BOLT) PROGRAM

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BASIC OCCUPATIONAL LANGUAGE TRAINING (BOLT) PROGRAM

One of the most innovative programs for teaching English to non-English-speaking or limited English-speaking persons was developed by the National Puerto Rican Forum under a contract with the Office of Manpower, Policy, Evaluation and Research, U.S. Department of Labor.[1] The main objective of the Basic Occupational Language Training (BOLT) program was "to design and develop new tools to teach job-oriented English language skills to the low-skill, low-wage Spanish-speaking worker" in New York City.[2] Through a program of job-related vocabulary exercises and verbal-aural methods, BOLT "sought to provide individuals with sufficient skills in English to facilitate entry into a particular labor market; and, once employed, to assist advancement and promotion within their employer's organization."[3] The BOLT approach relies heavily "on teaching specific job vocabulary, and using common words encountered at work to teach basic English syntax, morphology, and phonology."[4]

Language instruction was provided for Spanish-speaking persons employed in the following areas: (1) hospital housekeepers, (2) Housing Authority caretakers, (3) Community Action workers, (4) office skills, (5) hospital dietary service workers, (6) bank check processing operators, and (7) unemployed mothers (consumer education).

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[1] U.S. Department of Labor. Manpower Administration. Office of Research and Development. Project BOLT - Final Report for the Experimental and Demonstration Phase of the Basic Occupational Language Training Program, by The National Puerto Rican Forum, Inc. 1971.

[2] Ibid., p. 3.

[3] Ibid.

[4] Ibid., p. 6.

An evaluation of the 50 hours of BOLT instruction program indicated the following results:[5]

(1) Over 90% of the students had improved significantly in their ability to speak and understand spoken English.

(2) Gains in structural control and job vocabulary were significantly greater.

(3) BOLT reinforced positive attitudes, with the more positively motivated achieving highest language gains.

(4) Generally, trainees under 25 years of age showed the largest gains, although gains for all age groups were significant.

(5) Age appeared not to be a factor in gains in aural and structural skills.

(6) Raw intelligence data proved to be a fairly reliable indicator of gains in aural and structural skills, but not necessarily for improvement in job vocabulary and improvement in verbal skills, as measured by an interview.

(7) Trainees of lower socio-economic status showed greater language gains from BOLT than trainees from high socio-economic status.

The report concludes that "BOLT can be most effective in supplementing manpower training programs designed to deal with (1) entry-level adult skill-training; (2) adult skill upgrading; (3) pre-employment youth training; and (4) pre-employment adult skill training, such as C.E.P.--Concentrated Employment Program."[6]

The applicability of the BOLT program to bilingual vocational training is limited by two characteristics of the program:

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[5] _Ibid_., p. 26.

[6] _Ibid_., p. 36.

(1) The trainees were were already employed, thus the impact of the training can be measured only in terms of assisting the underemployed but not the unemployed.

(2) The trainees received instruction in English, with primary emphasis on occupationally-related vocabulary, but training in an occupational skill was not provided.

APPENDIX B

JOB CORPS, BILINGUAL/MULTICULTURAL PROGRAM

JOB
CORPS

Bilingual/Multicultural Program

U.S. Department of Labor
Manpower Administration
Job Corps
1973

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PROLOGUE

The purpose of the Job Corps is clearly stated as follows: "To assist young persons who need and can benefit from an unusually intensive program, operating in a group setting, to become more responsible, employable, and productive citizens." The mission of the bilingual/multicultural program presented in this manual is identical to the over-all Job Corps purpose. It merely emphasizes that no penalty be placed upon youth with a cultural characteristic of the Spanish language. The primary objective of the Job Corps program for those students whose first language is Spanish is to teach skills and competencies in English and Spanish which will enable each individual to function in a society whose predominant language is other than his native language. Centers serving Spanish-speaking young people will find these guidelines provide opportunity for implementation of an educational experience that is relevant to the corpsmembers' academic, vocational and personal/social needs.

The guidelines distill significant programmatic contributions made by Job Corps center and regional personnel, as well as consultants representing Spanish-speaking communities. Major responsibility for final formulation of the document was borne by Norma Varisco de García, Project Administrator, National Spanish Speaking Management Association, and Mr. Roland Lozano, Job Corps National Office Education Specialist. General guidance and supervision was provided by Mr. Luis Cardona, Director, National Spanish Speaking Management Association; Dr. Bette J. Soldwedel, Director, Office of Program Development, Job Corps; and Francetta Barberis, Chief, Educational and Vocational Training.

INTRODUCTION - JOB CORPS ROLE

Americans with a Spanish-speaking heritage number close to 12 million in the mainland United States. Many of the Spanish speaking face problems of social and economic deprivation and barriers to equal employment opportunity, some also affecting other minorities. The problems of the Spanish speaking are of long standing but have only recently become the focus of national attention and action. Spanish-speaking leaders have helped to call forth this new awareness and understanding of their people's needs. They have stressed the need for more comprehensive data on such elemental facts as the number of people of Spanish heritage in different parts of the country, their education, employment status, occupations and income. They have called for new and intensified program action to open wider opportunities for this minority group.

In the field of education and training, the Spanish speaking have fallen behind the rest of the mainstream. In the Chicago school system, 77 percent of all dropouts are Puerto Rican; approximately 52 percent of the dropout rate in New York City are Puerto Rican youngsters; the dropout rate of Mexican-Americans in Texas is 50 percent, and 60 percent in the rest of the Southwest. (Manpower Report of the President, 1973, p.93).

One of every five persons of Spanish-speaking origin (twenty-five years old and over) has completed less than five years of school, as compared with one in twenty-five for all whites.

The situation is worse for Mexican-Americans and Puerto Ricans, as compared to other Spanish-speaking groups: less than one in four Mexican-Americans in that age group has completed five years of school, and only 23.7 percent of Puerto Ricans have done so. Only about 48 percent of Spanish-speaking persons 25-29 years of age have completed high school. These figures show the great need for adequate and innovative programs for the Spanish speaking. (Manpower Report).

According to U.S. Census figures of 1970, median years of school completed for Spanish Americans thirty-five years old or older was 8.5 years, compared with twelve years for the rest of the population.

Of the Mexican-American and Puerto Rican population of the United States, those with some college total a shocking 4 and 6 percent, respectively. The comparable figure for all adults is 21 percent.

Job Corps is working toward answering their call. During fiscal 1972, about 5,400 disadvantaged Spanish-speaking youth were enrolled in Job Corps Centers. This represents 10 percent of Job Corps enrollment. Since the latter part of 1970, Job Corps has designated eight Centers to accomodate Spanish-speaking enrollees.

Job Corps implementation of a bilingual/multicultural program in its Centers is evidence of its commitment to developing the potential of its Corpsmembers. A conversion of Job Corps Centers to a total cultural environment that welcomes cultural differences and that does not homogenize, represents an innovative program in bilingual education, allowing for the immediate and direct strengthening of the talents of the Spanish-speaking youth. Through this bilingual/multicultural program, Job Corps will assist them preserve and strengthen:

- their pride in their heritage and mother tongue
- their strong sense of cultural uniqueness
- their respect for their fellow men
- their high value placed on work

Through the strengthening of these unique qualities, the Spanish speaking can be helped to overcome:

- the language barrier
- sense of ethnic isolation
- lack of a meaningful and productive vocational training
- lack of basic education that will help him to succeed in the world of work

SECTION I

RATIONALE

In the statement of purpose of Job Corps, as stated in the Economic Opportunity Act of 1964, the goal of this program is "to assist young persons who need and can benefit from an unusually intensive program operated in a group setting, to become responsible, employable and productive citizens ... "Job Corps is carrying on where traditional educational systems have fallen short. In terms of the Spanish speaking, Job Corps, through bilingual/multicultural education, is seeking to solve some of the long neglected problems.

What should be regarded as a natural resource (the ability to function in a language other than English) has been turned into a handicap. Our educational system thought of students with this ability as "disadvantaged" or "deprived," and at the same time has spent millions of dollars a year to teach foreign languages to English speakers, most of whom will never attain the competency that is possible for these native speakers. Traditional systems have promoted the educational retardation of millions of students because they have expected their conceptual development and their acquisition of experience and information to proceed in a language they do not understand. Educational systems have promoted a form of "culture shock". When a student cannot understand what is being said to him, he must feel alienated, and when his only means of communication is banned from the classroom, he soon concludes that his language, his culture, and he, himself, are inferior to the English language, the culture of the majority, and the English-speaking student.

The aim of a bilingual/multicultural program is to help people become fully literate in two languages and functional in two cultures, with the necessary skills to choose whatever career they desire. In order to realize the latter, (the ability to choose any career) we must be sure that the student does not fall behind in basic education, simply because he cannot understand what the teacher is saying. Therefore, bilingual/multicultural education is not merely the learning of a foreign language or the learning of the English language -- it is the use of English and the youth's native tongue as media of instruction for the entire curriculum. The student is taught in whatever language he understands best. As the student progresses through the program, instruction takes place in both languages and the student becomes equally and fully literate in both. Thus, bilingual education holds two distinct advantages for the non-English-speaking student:

- it allows him to advance his learning in other subjects while he is learning English
- it allows him to fulfill his potential career advantage, bilingualism, because he develops literacy in his native language.

Biculturalism is closely related to bilingualism, for we cannot separate language from the other components of a culture. When a student spends his pre-school years in one cultural environment and then is forced to negate that culture for the school's culture, his sense of identity and self-worth are severely threatened. A student who thinks he cannot succeed will prove himself correct. Just as we seek to instill in students a sense of pride in being citizens of the United States, we must also develop in them a pride in their ancestral culture and in their ancestors who contributed to the development of the United States.

BILINGUAL/MULTICULTURAL EDUCATION

Success in any type of program is achievement of the goals one seeks to attain. In order to realize success, the goals must be clearly understood by everyone involved. The primary goal of bilingual education is successful achievement by the students of the goals of the total educational program, using two languages, developing proficiency in both. The program affirms the importance of English, and at the same time, recognizes that the native language and culture of a student can play a major role in his education.

Enrollees' Orientation

Upon arrival of the Spanish-speaking enrollees to the Centers, their welcome and orientation must be done in Spanish, and by a Spanish-speaking member of the staff. Those who speak English should be oriented in English. The welcome speech delivered by the student leader should be delivered in Spanish by a Spanish-speaking enrollee.

All directions, notices, Center regulations, residential living manual and forms (e.g., interest check list) must be provided in both Spanish and English, to be used by the enrollees according to their language ability.

Guidelines in Spanish for the development of a student manual will be forthcoming.

A specific mention must be made of the material used by doctors and nurses in the health unit. All material related to physical examinations and health in general must be provided in Spanish.

Curriculum

The following complementary goals should be sought:

- Educational success on the part of the non-English-speaking student, through permitting him to learn in his first language, while he is learning to function successfully in English.

- Continued development by the non-English-speaking student of his first language as he is learning to function successfully in English.
- Increased recognition by the total community of the importance of bilingualism and its contributions to better understanding among the peoples of our society.

The Job Corps Bilingual Program will permit the student to interact spontaneously and naturally with mutual respect in either cultural environment, and it will permit the introduction of basic concepts, skills and abilities in the enrollee's own native language and subsequent reinforcement in the second language to enable him to function effectively.

The following are required for a successful bilingual program:

- Basic Education and Vocational Training courses in both English and Spanish
- Development of an adequate ESL Program
- Utilization of materials in English and Spanish
- Utilization of trained native Spanish-speaking teachers and aides
- Adequate in-service training for teachers and administrators

The Job Corps Bilingual Program has been broken down into four (4) components:

- Curriculum Content in Spanish

  Curriculum content in Spanish (that is, the teaching of Math, GED, vocational courses, etc., in Spanish) which parallels regular curriculum content in English, is an essential component within the bilingual program.

- Spanish Language Course

  In order to achieve the goals of bilingual education, the Spanish-speaking students must be allowed to maintain their self-image and improve and expand their knowledge of the Spanish language arts. This program can be for non-Spanish speaking as well.

- English as a Second Language (ESL)

  The ESL Program provides Spanish-speaking students with instruction in English to give them oral skills that should have been learned before entering the Centers. ESL provides instruction leading to the transfer of the reading and writing skills which the student may have acquired in his native language.

- Cultural Awareness

  Cultural Awareness must have as basic components history and geography, socio-economic development, the philosophy, the education, the literature and the art of the Mexican-American, Puerto Rican, Black, Native American and Anglo cultures. It also must contain a historical perspective of the Hispanic world tradition and history.

SECTION II

CURRICULUM GUIDELINES

Student Classification

The enrollment of Spanish-speaking trainees in Job Corps can be divided into four (4) categories.

The categories are the following:

(1) Monolingual (noncommunicating)

- (a) Understand only very limited conversation
- (b) Make errors in using the most frequent and useful grammatical structures
- (c) Speak with frequent significant distortions of words and intonation
- (d) Use very limited vocabulary

(2) Intermediate

- (a) Understand everyday speech when speakers choose words carefully or restate ideas for them
- (b) Make frequent significant grammatical errors of interference
- (c) Speak with significant distortions of words and intonation
- (d) Grope for high-frequency words and often have to rephrase to be understood

(3) Bilingual

- (a) Understand nearly everything a native speaker of comparable age and intelligence does
- (b) Use English with few grammatical errors and can rephrase to make meaning clear
- (c) Speak with minor, nonsignificant distortions and pronunciation and intonation
- (d) Use vocabulary comparable to that of native speakers of the same age and academic level

(4) English-speaking Spanish-surnamed Student

This student, even though he has a Spanish name, can only function in an English environment, since his mother tongue is English, and his educational background is in English.

Placement within these categories can be achieved through testing. Tests to be used are as follows:

1. ESL Oral Language Test for Non-English-speaking Adults, Appendix 1
2. Oral Interview Language Proficiency Scale, Appendix 2
3. Diagnostic Test for Students of ESL, Appendix 3

All of these tests are included in the ESL Program furnished in Appendix A.

According to the preceding classification, it is recommended that students be placed in the Basic Education and Vocational Training Program as follows:

1. Monolingual Students
    - A. ESL for Beginners
    - B. Basic Education and Vocation Training courses in Spanish
    - C. Cultural Awareness in Spanish
2. Intermediate Students
    - A. ESL - Placement into programs is determined by ESL Placement Test
    - B. Basic Education and Vocation Training courses for placement into the English curriculum
    - C. Cultural Awareness
3. Advanced Students
    - A. These enrollees should be placed within the English Basic Education and Vocational Training Program
    - B. Cultural Awareness

COMPONENT GUIDELINES

The Curriculum Content in Spanish:

Curriculum content in Spanish (that is, the teaching of Mathematics, GED, vocational courses, Cultural Awareness, in Spanish) which parallels regular curriculum content in English, is an essential component within the bilingual/multicultural program.

At the Job Corps Centers where the environment is English-speaking, the teaching of the curriculum subject areas in Spanish will develop cross-cultural understandings and attitudes.

The instruction in Spanish of the regular courses offered within the regular curriculum contribute to the educational process of the Spanish-speaking student.

These are the benefits to be derived:

- Development of further native language skills
- Development of insights into his own culture
- Provide the student with the means of preserving his academic standing in relation to the regular English curriculum while learning English as a Second Language.
- Participating students receive full credit toward graduation or completion of his GED studies for any subject taken in Spanish

The criteria to follow for a course to qualify under this requirement are:

- The class must be taught in Spanish and be designed to follow the authorized curriculum of the Job Corps Centers.
- Daily instructional time equivalent to that which is normally provided for the same area of instruction in English.
- The materials to be utilized must be designed for Spanish speakers of comparable age, interest levels and academic ability.

Spanish for Spanish Speakers

In order to achieve the goals of bilingual education, the Spanish-speaking students must be allowed to maintain their self-image and improve and expand their knowledge of the Spanish language arts. Thus, they must improve their native language proficiency while learning English.

- Two kinds of students will benefit from the Spanish course: native Spanish speakers, and English-speaking students that are bilingual and speak Spanish fluently.
- The subject matter of the course will be Spanish Language, and the instruction should be given on a daily basis
- The instructional material should have been specifically designed for the instruction of native Spanish speakers.
- Even though it is necessary to make note of the fact that lexical items and regional/dialectical considerations must be emphasized, we must remember that colloquialisms, regionalisms and dialects give way to a cultural standardized language.

English as a Second Language

The English as a Second Language component refers to classes in the English language, conducted mainly in English (with only minimum explanations in Spanish when necessary for the student to understand concepts) for enrollees whose native language is not English.

The objective of ESL is to enable the newly enrolled non-English-speaking student to:

1. Understand nearly everything a native speaker of comparable age and intelligence does
2. Use English with few grammatical errors
3. Speak with minor, nonsignificant distortion

4. Use vocabulary comparable to that of native speakers of the same age and academic level

The ESL Program will be successful according to the English proficiency level achieved by the enrollees.

It is of the utmost importance to remember that ESL is a term that has been used frequently to refer to bilingual education programs. Calling an ESL program "bilingual" is wrong.

If the total emphasis is given to English as a Second Language, the Spanish-speaking students, for the sake of learning a language, will be cheated of the opportunity to acquire a basic education and a vocational education. English as a Second Language becomes an important element of a bilingual program only when the program is a program in transitional bilingual education.

It must be restated that in this specific case, the programs at the Centers are not transitional bilingual programs. The period of time that the trainees remain at the Centers (9 months at the most) makes it impossible for the monolinqual and the intermediate students to become totally fluent in the English language, to the point of being able to transfer into regular classes conducted in English.

The primary goal, then, is to provide the students with saleable vocational skills in a short period of time, and an adequate general education, if not a GED, both of which will allow the student to enter the job market armed with a vocation and the necessary background in education to defend his recently acquired job.

"English as a Second Language" is an important component of bilingual education, but unless the native language is used as a medium for teaching a part of the total curriculum, the education program cannot be called bilingual.

The criteria to follow in organizing the ESL classes are as follows:

- The daily instruction should be two hours a day, determined by the language proficiency of the students.

- Material specially designed for ESL must be utilized.

It is essential that the ESL students have the opportunity to interact with regular English-speaking students. This interaction will provide the basis for language learning and development of cross-cultural insights of all involved.

See Appendix A for details of ESL Program.

Cultural Awareness

It is of utmost importance that cultural awareness concepts be clarified in Job Corps, not only as a component of the overall curriculum but as a concept which permeates all activities in which the Center engages. While the content might be thought of only and strictly in classroom situations, the teachers must see to it that those ideas discussed in Cultural Awareness classes indeed can be operationalized in Center activities.

Cultural Awareness must have as basic components history and geography, socio-economic development, the philosophy, the education, the literature and the arts of the Mexican-American, Puerto Rican, Black, Native American and Anglo cultures. It must also contain a historical perspective of the Hispanic world tradition and history.

The Job Corps Intergroup Relations Program, developed by the Anti-Defamation League (anticipated implementation by October, 1973) can be correlated with the Cultural Awareness component of the bilingual program guidelines.

A. Concerning content: the course may include, but is not the same as an intensive course in:

1) Geography
2) History
3) Folklore
4) Sociology (Families, Social Class and Strata, Economics, Law, Politics, Religion)

5) Language
6) Linguistics
7) Literature
8) Civilization

Each of these elements has an essential and equal contribution to make toward intercultural understanding.

B. Culture must be thought of as a phenomenon consisting of primarily two parts:

Material culture: which is all the things men make and use in society: foods, customs, dances, family, vehicles to put into effect laws and government

Non-material Culture: Individuals or groups assign a differential hierarchy of status and importance to values and socialization patterns, language (domains, degrees and proficiency), heritage, teaching and learning styles.

The reason for subdividing the "concept of culture" is solely for an aid in determining contextual analysis and will further ensure better situational choices.

C. Questions for Cultural Awareness curriculum models:

1) What is the goal?
2) Who is the learner?
3) What is the range of materials?
4) What is the instructional methodology?
5) What is (are) the assessment instrument (s)?

D. Possible Curriculum Approaches

1) Theme Approach

a) Health

b) Education

c) Welfare

2) Historical Approach

   a) Future chronology

   b) Past chronology

   c) What to emphasize (in time)

3) Comparative Approach

   a) Language/Linguistics

   b) Socialization

   c) Politics

   d) Education

4) Area or Discipline Approach

   a) Sociological - Sociological

   b) Political - Political

   c) Literature - Literature

   d) Economics - Economics

5) Whom to Include Approach (Ethnic participation)

   a) Spanish Surnamed (Mexican-Americans, Chicanos, Puerto Ricans, Cubans, all other Latin communities)

   b) Blacks

   c) Native Americans, Eskimos

   d) Asians, Polynesians

   e) Anglos (diverse groups)

   Here it is necessary to determine whether the ethnic communities in contact will stress the individual or group characteristics and whether individual institutional response to each group or groups will be discussed.

E. Evaluation

It is of crucial importance to ask here what is the goal or purpose of these elements within the overall cultural context which may be isolated as being of extreme importance.

However, caution is recommended in this area since isolation of elements may lead to the creation of instruments which can be quantifiable, and not take into account the attitudes and feelings of those involved.

The meaning of "cultural awareness" will arise out of the environment (physical or abstract), and it will be up to the instructor and the learner to discover and define that meaning.

Curriculum models are made only to be flexible and to eventually accommodate the learner above all.

The courses in Cultural Awareness must be a part of the general curriculum, and attended by all enrollees. The trainee should be scheduled into the Cultural Awareness program at the beginning of his enrollment in Job Corps.

The Cultural Awareness course should be given in Spanish for the monolingual and intermediate students whose lack of knowledge of the English language would not allow them to participate and profit from the given course.

The first four components, (Curriculum Content in Spanish, Spanish for the Spanish Speaking, ESL and Cultural Awareness), of the bilingual program are offered within the Basic Education and Vocational Training Program.

The final element, Spanish as a Second Language component, may be offered by bilingual staff as a part of the Residential Living Program. This is optional, depending upon Center staff capabilities.

Spanish as a Second Language (optional)

The Spanish as a Second Language within the bilingual program is designed for those enrollees whose mother tongue is English and who are to become bilingual/multicultural, and for enrollees who, even though they come from a Spanish family and live in a Spanish milieu, have limited capacity in Spanish.

This course should develop Spanish proficiency and multiculturalism in all students' and will provide enough knowledge for the student to become proficient in Spanish to permit involvement in a Spanish-speakers' class or in a vocational class taught in Spanish.

The class must be given on a daily basis in Spanish for a minimum of 60 minutes, usually 30 minutes in the language, and 30 minutes of activities reinforcing aspects of the regular curriculum (Mathematics, GED, vocational training).

The GED in Spanish

Within the Job Corps General Education Development program, provisions should be made to develop an equivalent program for the Spanish-speaking enrollee. This is a preparation for the trainees for the GED in Spanish.

Again, careful consideration should be taken for placement of Spanish-speaking corpsmembers in the GED program in Spanish or English. For selection of students to enter the GED program in Spanish, the following criteria should be considered:

- Ability to use the Spanish language correctly, both in writing and orally
- Entry scores of 6.0 in Math and Reading in Spanish
- Spanish-speaking students' prior education should be taken into consideration for placement into the GED program in English or Spanish. This is due to background knowledge required in the test, such as, in Spanish, knowledge of history and literary materials of Latin America. The same

holds true for the GED in English.

The following are areas in which the students must be carefully prepared in order to take the GED series of tests in Spanish:

1. The student must demonstrate ability to recognize correct and effective Spanish. He must be able to answer questions in spelling, accentuation, capitalization and punctuation, grammatical usage, capitalization and punctuation, vocabulary, and sentence structure. Also, the student must be able to write and express himself in a correct and effective manner.

2. In the field of Social Studies, the student must be able to interpret reading materials. He must be able to read passages, charts, graphs and maps in the areas of social studies, history, government, geography and economics. Stress must be placed on reading rather than on the interpretation of graphical material. In the exam given in the Northeast, passages deal with Puerto Rico, Latin America and the United States. In California and the Southwest, emphasis is placed on Mexico, Latin America and the United States. The student must answer a number of questions using the information provided in the selection.

   The Cultural Awareness course will provide the students with additional knowledge about their respective cultures to be used in preparation for the GED examination.

3. Reading materials in Natural Sciences: the student must be able to interpret reading passages on a number of subjects in both the biological and physical sciences. As in the previous area, the student must be able to answer a number of questions based on the information obtained from the reading material.

4. In the preparation for interpretation of literary materials, the student must be taught to interpret poems, dialogues from plays, and passages of prose. Outstanding Latin American authors must be made known to the students since they will be represented in the test. The student must be taught to understand and interpret the selection. The test generally does not put emphasis on the literature of any single culture, but it covers all of Latin America and Spain.

5. In General Mathematics, the student must have a general preparation in the following areas: Basic Math (30%), Data Interpretation (15%), Geometry (15%), Elementary Algebra (30%), and Coordinate Geometry (10%). The percentages between brackets are more or less the breakdown in the GED test for General Mathematical Ability.

It must take into account the possible differences in the GED in Spanish in different regions. A follow-up session should be held with students who take the examination to benefit from their experiences. This information can be used by the teachers in the preparation of the future examinees.

The book Preparacion para el examen de la escuela superior (en Español) by Susan Ringel, published by ARCO, in New York, is recommended for the preparation of the Spanish-speaking students to take the GED esamination in Spanish. An annotated bibliography of indispensable books to be used as back-up sources by teachers and students is provided in Appendix B.. This bibliography also includes books to be used in the vocational courses.

Providing the students with books that will help them to broaden their knowledge in the areas to be covered, not only in the GED examination, but also in Basic Education and Vocational Education, will allow them to advance more comfortably at their own pace.

It must be taken into consideration that in any given educational situation, students could benefit from interaction. The teachers must use their own judgement in presenting themes in a lecture atmosphere, to allow the students to exchange ideas in a group fashion or to proceed with the program on an individual basis.

Guide for Curriculum Development

1. Content of the subjects must be presented not as dead or inert, but as active fields of investigation.
2. Following the selection of objectives and the identification of relevant bodies of content, the curriculum development and coordination can be functionally organized in rather broad ways:
    a) by discipline, e.g., Reading, Math, ESL, Health, World of Work, Cultural Awareness, etc.
    b) by projects, tasks, enterprises, job training, individuals, etc.
3. The following represents items to be considered in educational planning as regards decisions in curriculum. As previously noted in prior sections of this guide, the content (specific) is not as important as the process. One should be aware that the following items encompass Basic Educational, Vocational and Technical Education and GED.
    a) These items must be considered in curriculum decision-making:
        1) The necessity of having a goal to assure success.
        2) Content (direct and supplementary)
        3) Modes of learning (cognitive styles)
        4) Organization of learning opportunities
        5) Organization within and across content areas
        6) Teacher presentation methods
        7) Learner response
        8) Evaluative philosophy/preference

9) Teacher/learner feedback procedures

10) Time allocated to all considerations

11) Policy regarding student grouping

12) Degree of choice(s) for the learner(s)

13) Role of teacher/learner/institution to all above.

b) Examples of questions for research of above considerations (each number corresponds to number above, e.g., 1 - 1)

1. Goals - Does student participation in selection of goals affect his performance and increase his incentive motivation?

2. Content - What do the students see as relevant within each area or areas of study?

3. Modes - Do different styles (personal, group, competitive, cooperative, etc.) affect achievement?

4. Organization - To what extent does student initiated sequential learning affect performance and learning follow-up?

5. Organization Content - Does curriculum integrated/interactive produce a greater or lesser range whereby complex issues, (for example, Cultural Awareness) can be analyzed?

6. Teacher - Do diverse approaches in instruction affect learning? How?

7. Pupils - Do the items in (6) alter the instructors' perception of the students' capacity to produce positively?

8. Evaluation - What types of "time" assessment help or hinder performance?

9. Feedback - What effect do student/teacher conferences have on the learner?

10. Time - What relations exist between time allocated and students' perception of that subject's importance?

11. Grouping - What are outcomes in grouping by: bilinguality, sex, age, ethnic background, interest, I.Q., and what constraints do various subject matter fields impose on each grouping?

12. Choice - What relationship(s) exist between availability and degree of choices and final achievement outcomes?

13. Roles - How can justifiable rationale be developed that will delineate (who-where-when-how) individuals or groups in making significant curricular decisions?

4. Determination of Curriculum Influences

   a) Who is to be influenced?

      1) Students
      2) Teachers
      3) Administrators
      4) Community
      5) State
      6) Federal

   b) What is the source of influence?

      1) Curriculum variables
      2) Teachers
      3) Administrators
      4) Social
      5) Personal

c) What kind of result is produced?

1) Understanding
2) Skills (voc/tech)
3) Attitudes
4) Values
5) Appreciation

d) How will results be elicited, expressed, and what evaluation priorities will be assigned?

Bilingual Education Program Breakdown

The courses in the Bilingual Program must consist of courses of study developed by modules, each having specific performance objectives stated in behavioral terms. Behavioral objectives will allow for improved assessment of trainees' progress and at the same time provide clear goals for teachers. Establishment of modules will provide smaller discrete units for trainees to complete.

The components of the Bilingual Program are directly related to the regular English curriculum, they support and add to those curricula for non-English language students and bilingual English language origin students.

The ESL program provides Spanish-speaking students with instruction in English to give them oral skills that should have been learned before entering the Centers. This subject (ESL), also provides instruction leading to the transfer of the reading and writing skills which the student may have acquired in his native language.

The courses should provide general education as a continuation of the interrupted high school program, in addition to the vocational instruction.

Instruction must be parallel to afford the student the maximum educational benefit. As a rule, students should complete not only the vocational training but also the General Education Development (GED).

All Centers must be familiar with the States' Post-Secondary Education Programs, and linkages must be developed in order to promote the enrollment of the Corpsmen into these State's Post-Education Programs. To have an enrollee placed in a job that will allow him to start making a livelihood for himself and afterward return to pursue post-secondary education should be one of the ultimate goals of Job Corps.

BILINGUAL PROGRAM OUTLINE

1. Monolingual and Intermediate Students

With the exception of ESL all other courses must be offered in Spanish.

- a. Spanish for Spanish speaking
- b. English as a Second Language
- c. Cultural Awareness
- d. Basic Education Courses
  - (1) Mathematics
  - (2) World of Work
  - (3) GED
- e. Vocational Training

2. Bilingual Students

In other courses besides ESL and Spanish for Spanish Speakers, the students should be placed according to their linguistic ability, either in courses given in English or in Spanish. According to their level of achievement these students should be placed either in ESL or regular English reading courses and preparation for the GED exam.

- a. Spanish for Spanish speaking
  - (1) Intermediate
  - (2) Advanced
- b. English as a Second Language
  - (1) Intermediate
  - (2) Advanced
- c. Cultural Awareness

d. Basic Education

   (1) Mathematics

   (2) Reading

      - Graded

      - Advanced

   (3) GED

   (4) World of Work

e. Vocational Training

3. English-speaking Spanish-surnamed Students

   a. Spanish as a Second Language (optional)

      (1) Beginners

   b. Cultural Awareness

   c. Basic Education

      (1) Mathematics

      (2) GED

      (3) World of Work

      (4) Reading

   d. Vocational Training

Achievement Testing

Student progress in the achievement of educational proficiencies can be grossly assessed by the use of standardized instruments. Following are illustrations of tests currently available. Center bilingual program coordinators are expected to review these and other assessment resources; to select one for use; to see that it is appropriately and regularly administrated; to compile individual Corpsmember proficiency progress records. Over time the Job Corps National Office will use accumulated Center knowledge and experience with the various tests as a basis for Center-wide policy determination.

APPENDIX C

APPROACHES TO TEACHING LIMITED ENGLISH-SPEAKING CHILDREN

APPENDIX C

APPROACHES TO TEACHING LIMITED ENGLISH-SPEAKING CHILDREN

Engle has described the two primary models of instruction for children who speak a non-dominant language but are expected to learn the language of the dominant group. The "Native Language Approach" involves instruction in the primary or vernacular language, while the "Direct Method Approach" involves instruction in the second language or the dominant language to be learned. Table 1 outlines the characteristics of the two approaches.

Engle summarized the advantages of the Native Language Approach and the Direct Method Approach according to five program components: reading, medium of instruction, introduction of second language as a subject, teacher characteristics, and future goals of the program. Table 2 presents the advantages (which sometimes point of the disadvantages of the other approach) and the literature from which they were obtained.

TABLE 1

Characteristics of Two Approaches for Providing Instruction for Children from Non-Dominant Language Groups[1]

	PROBABLE RECOMMENDATIONS	
Schooling Components	Native Language Approach	Direct Method
Reading	Introduce reading in first language until child achieves good reading level, then introduce reading in the second language	Introduce second language orally; begin reading instruction in second language only when the spoken language has been learned well
Introduction of other subjects or content areas	The native language is used as a medium of instruction for other subjects; gradually the second language is introduced as a medium of instruction	Second language is used as a medium of instruction for other content areas
Teaching of unused language	The second language is first introduced as an oral subject in structured and ordered form	(no equivalent; first language is not taught as a subject)
Teacher characteristics	Teacher is a bilingual native-speaker (probably from the ethnic group of the students)	Teacher is a fluent speaker of second language; may or may not be from community
Intention of program	The approach suggests that the vernacular will be used in written form in other contexts; thus a program goal is to make students literate in both the first and second language	Program goal is to make students literate in second language, to become part of the larger society. Little interest is shown in first-language literacy

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[1] Patricia Lee Engle, The Use of Vernacular Languages in Education; Language Medium in Early School Years for Minority Language Groups. Papers in Applied Linguistics, Bilingual Education Series: 3. (Arlington, Va.: Center for Applied Linguistics, 1975), p. 2.

TABLE 2

Comparison of Advantages for the Native Language and Direct Method Approaches[1]

ADVANTAGES OF NATIVE LANGUAGE APPROACH	ADVANTAGES OF DIRECT METHOD APPROACH
I. Reading	I. Reading
Introduce reading first in the vernacular, then in second language	Introduce reading in second language after oral training in second language
A. Once the child has learned to read, transferring this skill to a new language is easy (Saville and Troike, 1971: Gudschinsky, 1970).	A. The child becomes confused by first learning to read in the vernacular, then having to transfer to another language; the direct method is simpler (Bull, 1964; Pozas and Pozas, 1956).
B. It is easier to learn to read an orthorgraphy that has a regular phoneme-grapheme relationship (as do most of the vernacular languages which linguists have recorded (McQuown, 1941; Columbia, 1926).	B. No equivalent. (Depending on the languages, the first and the second might also have regular orthography).
C. The child can begin reading when he is ready; his readiness period is not wasted.	C. The child should learn the second language as soon as possible, since the older he is, the harder it will be for him to learn a second language (Venezky, 1970).
D. What he is reading makes sense, and is therefore easier to read (Modiano, 1973).	D. Reading will make sense to the child since he should be taught the second language orally first (Tireman, 1948).
E. He may recognize letters more easily because the language is familiar (Keislar, 1971; Piaget and Inhelder, 1969; Weinreich, 1967).	E. No equivalent.
F. He has increased respect for his language and culture because it is being taught in school (Weinreich, 1967).	F. Teaching literacy in the dominant second language will give the person tools for admission to the dominant culture and will aid in his economic development (Bull, 1964; Ramos et al., 1967; Heath, 1971).

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[1] Engle, pp. 3-6.

TABLE 2 (Continued)

ADVANTAGES OF NATIVE LANGUAGE APPROACH	ADVANTAGES OF DIRECT METHOD APPROACH
G. Increased self-pride makes it easier for him to be able to read (no real evidence).	G. No equivalent.
H. No equivalent.	H. The time and expense necessary to create good materials in every native language makes the other approach prohibitive.
II. Medium of Instruction	II. Medium of Instruction
The Vernacular should be the initial medium of instruction, followed by second language as the medium of instruction	Second language should be the initial medium of instruction
A. Because the child can understand what is being said, he will be more likely to succeed and therefore develop a sense of being successful in school; he may not feel as isolated as when the language is strange (Ramos et al., 1967; Lavallee, 1973).	A. Child will learn the second language as children first learn a language informally, from hearing it spoken.
B. Child learns how to learn in his own language (Holm, 1973).	B. No equivalent.
C. Again, the prestige of the local language is enhanced by making it a language of instruction.	C. No equivalent.
D. As the child learns the concepts in two languages, he becomes more flexible, better able to handle the concepts (e.g., Giles, 1971)	D. Some subjects, such as math, are better handled with only one language, as they are very difficult to switch from language to language (Saville and Troike, 1971).
E. Any language can be used to express any concept (UNESCO, 1953.)	E. Most vernaculars do not have the technical terms necessary for advanced learning. Thus either the language can be adapted or the second language could be learned instead (Pozas and Pozas, 1956; Bull, 1964; Ramos et al., 1967).

TABLE 2 (Continued)

ADVANTAGES OF NATIVE LANGUAGE APPROACH	ADVANTAGES OF DIRECT METHOD APPROACH
F. The child is given opportunities for self-expression in his own language, which he would not be able to have in a second language for at least several years.	F. The child will learn more rapidly and will be competent sooner if he is given all instruction in the second language.
G. No equivalent.	G. Good materials in the vernacular are often difficult to find or develop.
II. Introduction of second language as a subject	III. Introduction of first language as a subject
A. Second language can be introduced systematically, e.g. according to rules of language acquisition. Thus the child is more likely to understand than if language were simply presented randomly, as is the case when the second language is used as the medium of instruction (Saville and Troike, 1971).	A. Child learns language like a young child would: therefore the first language need not be taught systematically (no evidence).
IV. Teacher Characteristics. (Presuming that the teacher is from the same community or group as the children.)	IV. Teacher Characteristics. (Presuming that the teacher is from dominant cultural group rather than from that of the children.)
A. The teacher can better relate to the community (Modiano, 1973).	A. Teacher may be better trained than the native teacher (Ramos et al., 1967).
B. The children and teacher can communicate from the initial days onward (Modiano, 1973).	B. Teacher may have a good mastery of the second language, which the native teacher may not have.
C. The teacher may understand the learning styles of the children, and how they are different from those needed in the school setting (though he may not be able to do anything about it) (Philips, 1970; John, 1973).	C. No equivalent.
D. Teacher may be seen as more trustworthy (Modiano, 1973).	D. No. equivalent.

TABLE 2 (Continued)

ADVANTAGES OF NATIVE LANGUAGE APPROACH	ADVANTAGES OF DIRECT METHOD APPROACH
E. Teacher may not have negative stereotypes about the children and their language (Gumperz and Hernandez-Chavez, 1972).	E. No equivalent.
F. Children can see one additional occupation (teacher) which they might qualify for with their schooling and thus may have higher life expectations (no evidence).	F. No equivalent.
V. Future goals of the program	V. Future goals of the program
A. The students are taught in order to help them integrate, both psychologically and economically, into dominant culture (the same result is given in both cases for different reasons).	A. The students are taught in order to help them integrate, both psychologically and economically, into the dominant culture (Pozas and Pozas, 1956).
B. An individual has a right to maintain his native language (Comas, 1956).	B. No equivalent.
C. Literacy in the native language will be developed as well as literacy in the second language.	C. No equivalent.

Not all advocates of either position will support each statement. However, they are presented to highlight the main contrasts between the two models.

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